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Issue 273 : November 2015 : net.creativebloq.com

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* WELCOME

EDITOR'S NOTE

➤ As I write this, we're about to embark on the biggest event of the **net** calendar: Generate London, now spread over two days, with the **net** awards closing the second day. **net** is now so much more than a magazine. We have run two conferences in London and two in New York, and the awards are now in their 16th year.

It's all closely linked. For example, we invited Lebanon-based frontend developer Sara Soueidan, who recently wrote a great feature about SVG for us (netm.ag/sara-273), to give a keynote at Generate – her first ever UK speaking appearance! It's no surprise she was also crowned the **net** Developer of the Year. And many other winners (especially the

new talent that we uncover) go on to write for the magazine and other publications, and often start on the speaking circuit, too. Don't miss our coverage of Generate London and the **net** awards next month.

As for this month's issue, it's got plenty of goodies: from our cover feature, which compares Photoshop with our App of the Year, Sketch, to O'Reilly's 64-page Web Performance Warrior report, which you can download for free. Just turn to page 98 to find out how.

Enjoy!

Oliver Lindberg, editor
oliver.lindberg@futurenet.com

FEATURED AUTHORS

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Brian is the founder and art director of Brian Hoff Design, and from page 68 compares Photoshop with Sketch for web and UI design
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t: @behoff

AMY KAPELL



Amy is the VP of client strategy at Closed Loop, a boutique digital agency in California. From page 76 she explores how to enchant your clients at every turn
w: closedloop.com
t: @amykapell

SARA SOUeidAN



Sara is an award-winning frontend developer, writer and speaker. On page 84 she walks you through how to boost your SVG animations with GSAP
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t: @SaraSoueidan

STEVE FISHER



Steve is the founder and experience architect at The Republic of Quality. On page 28 he discusses responsive content modelling
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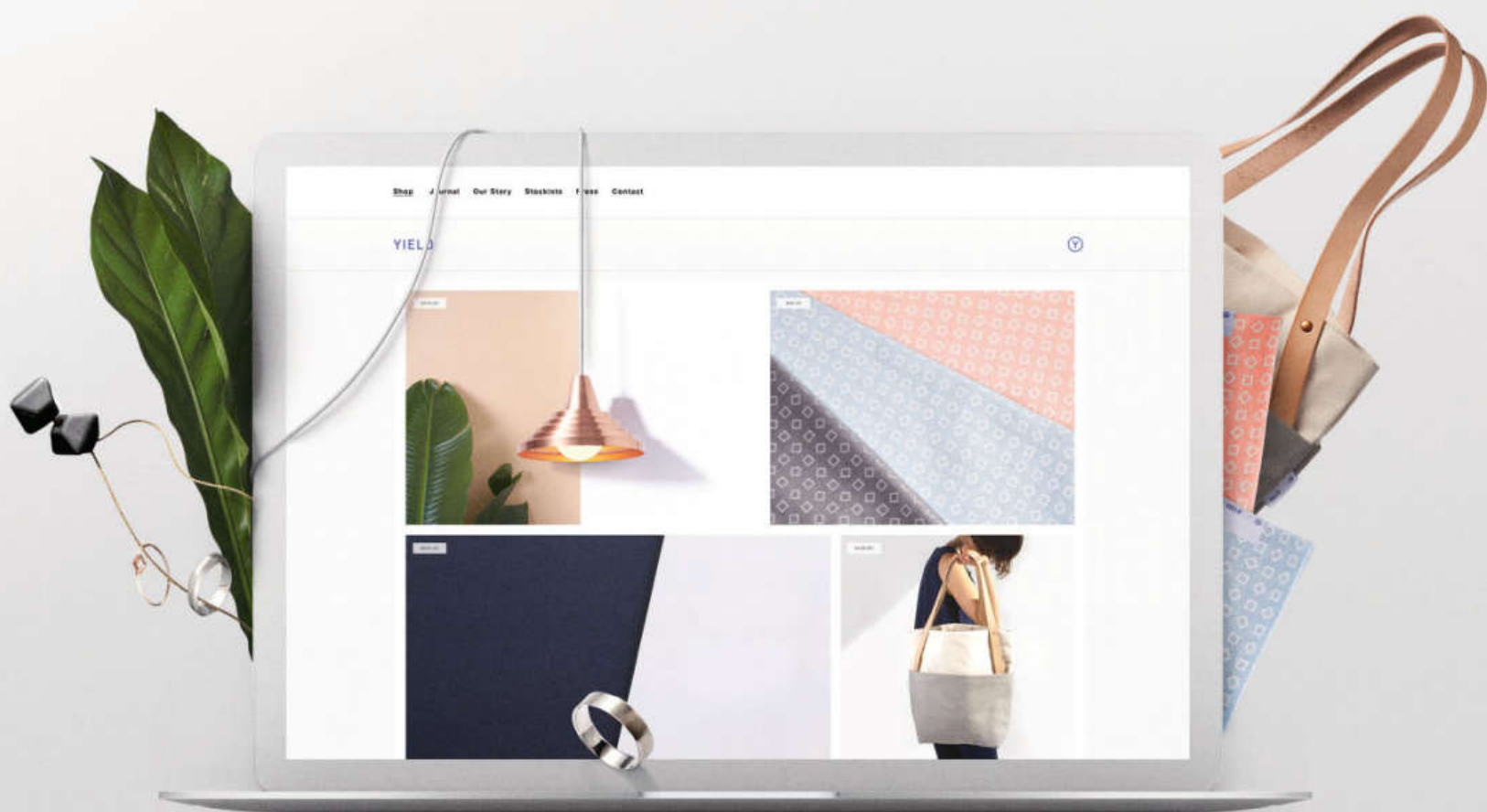
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★ REGULAR

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NETWORK

Mail, tweets,
posts and rants

*CONTACT US @netmag /netmag +netmagazine netmag@futurenet.com net.creativebloq.com



✉ CONFERENCE VIDEOS

I'm looking to learn more about web design, especially content placement and page layout. I spend a fair amount of time on the road where I could listen to MP3s, and another option would be downloadable videos. Do you have any suggestions on where I could find such content? Are any of the big web industry conference events recorded?

Glen Martin, Pennsylvania, US

net: Of course! There are many good web design podcasts out there and you can find a selection to choose from at webbypodcasts.co.uk. Many web design conferences also make videos of their talks, which are freely available after the event. We recommend you check out

our own Generate videos (generateconf.com/videos), the Five Simple Steps videos from events around the world (netm.ag/five-273) and the beyond tellerrand Vimeo channel (vimeo.com/beyondtellerrand). That should keep you busy!



SUING GOOGLE

Hey guys, I designed Gerty's logo [appstafarian.com/gerty.html] and I want to sue Google. Could you help me?

@l3on4rdoluis

net: We passed this question on to Phil Gorski from Blacks Solicitors (lawblacks.com) who says: "A claim for copyright infringement in these sorts of circumstances will come down to whether or not you can persuade a court that copying actually took place. If a claim was to succeed you would need to show first of all that the logos were substantially similar (in the legal sense) and, secondly, that there was the possibility/likelihood of Google seeing your logo and copying it during its design process. Google on the other hand would try to highlight the differences between the logos and provide evidence that its design was created independently of yours."



FRONTEND TOOLING STATS

The results of the survey I was running on frontend tooling are now online if you guys are interested: netm.ag/tooling-273.

Ashley Nolan, Wales, UK

net: We certainly are! At the time of writing, Ashley had received 1044 responses for the survey and the results make interesting reading. For example, Sass was the preprocessor of choice for the majority of respondents with 66 per cent, and only 13.5 per cent of those questioned said they used no preprocessing tool when authoring their CSS. In the battle of the task runners, gulp came out a fair distance ahead, with 46.7 per cent of respondents saying it was

their favourite, compared with just 26.3 per cent going for Grunt.



DESIGN TRENDS

I've been 'designing in the browser' for the last couple of days. Do I get a net award now?

Andy Bell, Cheltenham, UK

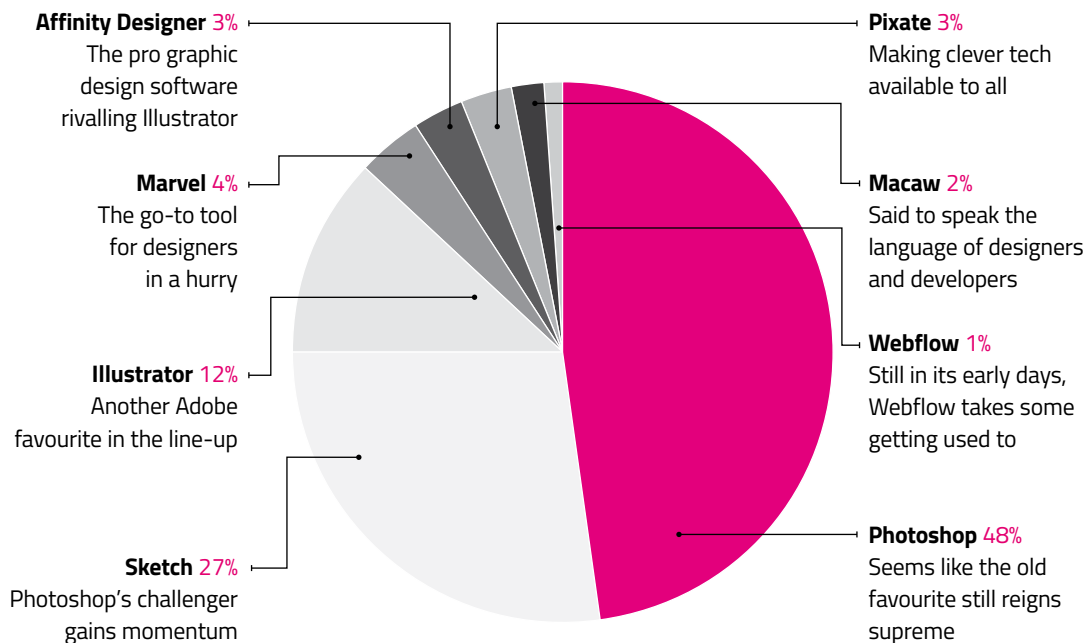
net: Nice try, Andy! We hope you're enjoying your new process. If you want to read more about this topic, check out these posts: netm.ag/browser1-273, netm.ag/browser2-273, netm.ag/browser3-273. And if you want to find out who did manage to snag a coveted net award this year, head over to thenetawards.com and don't miss our coverage from the ceremony next issue (#274).



Listen in There are plenty of industry podcasts to help you learn new things when you're on the move. webbypodcasts.co.uk gathers together some of the best

*THE POLL

WHICH IS YOUR FAVOURITE DESIGN TOOL?



From our timeline

How do you block out distractions when you're working from home?



Set times for breaks and 'non work' things ... and stick to them!

@mbarker_84



A LOT harder than it seems ... separate room, no children, LOUD MUSIC, preferably Slipknot (clears the house). Then FOCUS.

@RonniePye



I bought a shed.

@garymarshall



Turn off Twitter ;)

@de



Noise cancelling headphones and a cushion for the cats to sleep on so they don't annoy me.

@emchi



By not blocking them. Sometimes they're essential to work, the key is to control them.

@shmoops_



You only get distracted if you want to be ... even at work. Motivation is key - pick a moment when it hits. Location is secondary.

@gunayg_ig



A big pair of headphones and music always helps. Or exile - simply banish everyone and everything from existence.

@coldfumonkeh



Office door closed means 'leave me to it'. I established good habits and routine many years ago, and my kids were brought up with them.

@bseymour

COOL STUFF WE LEARNED THIS MONTH

SALESFORCE SPRUCES UP



Salesforce, one of the biggest business enterprise apps on the market, revealed that it's rolling out a redesign based on its 2013 app. It will boast a customisable dashboard and simplified workflow, and users can schedule the introduction of the new design or toggle between layouts.

netm.ag/salesforce-273

SPEEDY SAFARI



Frustrated by the number of ads and data-tracking scripts that slow down your mobile browsing? Your troubles might be over. In iOS 9, Apple will be introducing 'content blockers': apps that will bar unwanted advertisements and trackers. Skimming data tracking tools is good for Apple, but could prove detrimental for publishers.

netm.ag/block-273

SOFTWARE PSYCHOLOGY



It's time for software design to mature. People are more than users - they're building relationships with their tools, and negative experiences can have physical effects. Software with heart will take time to build, but it's the next step in delivering a meaningful product relationship.

netm.ag/psychology-273

EXCHANGE

Send your questions to netmag@futurenet.com

Practical
advice from
industry experts

THIS MONTH FEATURING...

MICHELLE BARKER



Michelle is a designer at Future Insights, with a passion for CSS
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t: @mbarker_84

CAMERON MOLL



Cameron is a designer, speaker, and the founder of Authentic Jobs
w: cameronmoll.com
t: @cameronmoll

BEN ALPERT



Ben works at Facebook on React, an open-source JavaScript framework
w: benalpert.com
t: @soprano

TOM PLATTEN-HIGGINS

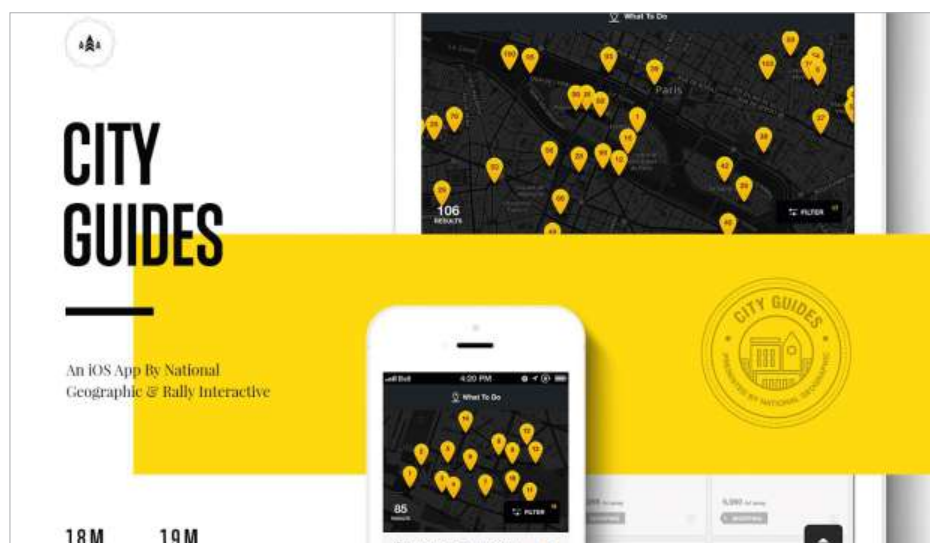


Tom creates games at Devon-based studio Mutant Labs
w: tomph.com
t: @tomph

*QUESTION OF THE MONTH

How would you recommend displaying websites, beyond device screens and photograph mockups?

Katherine Cory, Manchester, UK



Showing off A portfolio piece from Ben Cline (netm.ag/cline-273), found on Behance with the 'UI/UX' filter

TF: Keep in mind that no amount of lipstick will enhance poor work. Show your strongest work and leave prospects wanting to see a little more. I'd rather see three strong pieces in your portfolio, documented in detail, than 20 pieces ranging from great to mediocre. As for the presentation of your work, Behance and Dribbble are two of your best allies. Filter by 'UI/UX' or 'Web Design' on Behance, or tags such as 'website' on Dribbble. Within minutes you'll have a slew of digital and analog treatments of web design work to influence how you show your work.

HTML5 GAMES

PITFALLS TO AVOID

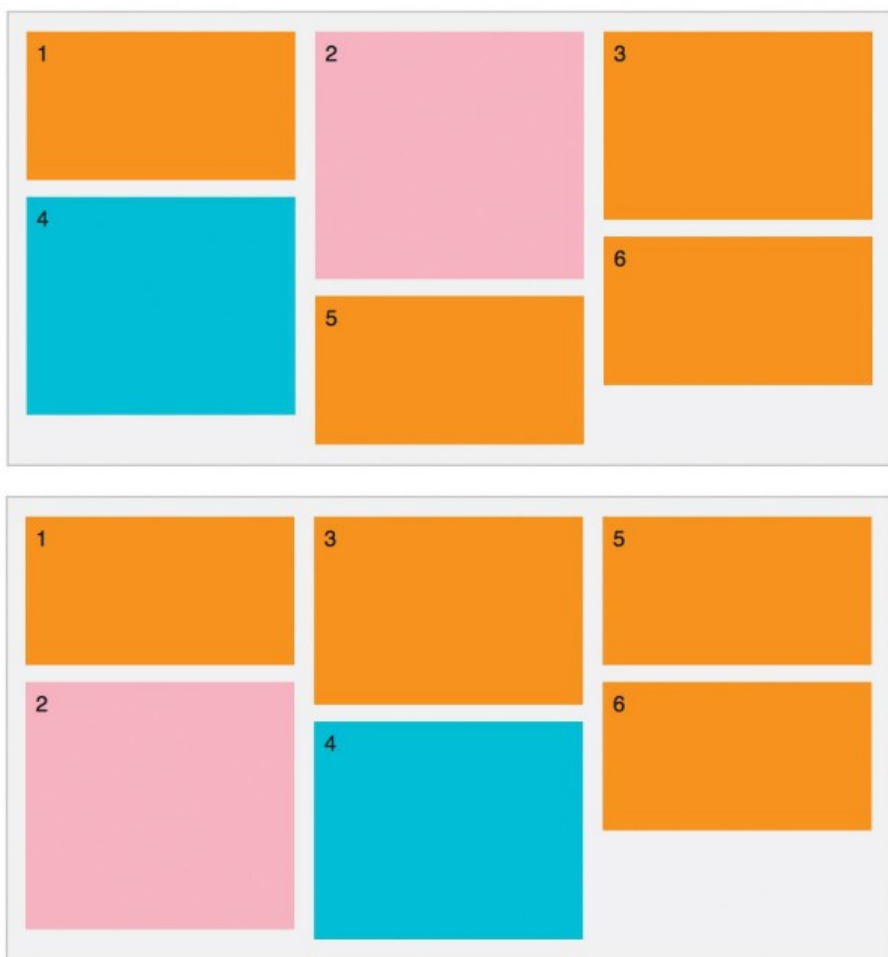
What's your best piece of advice for anybody building a game right now?

Robert Peters, Wiesbach, DE

TP: Start small and have fun with it!

What's not to like about working in your bedroom for two years on a big idea and

then making millions of dollars? Great ideas spawn lots of positive energy and most game concepts can be hashed out in 24 hours. If at that point the idea still feels right, you're probably on to something! Go to game jams, meetups, collaborate and get people to play your games.



In order The Flexbox Layout works by reordering child elements (flex items) within a parent container

CSS LAYOUTS

FLEXBOX AIMS

I have a Flexbox issue. This is what I want: netm.ag/pen1-273, but without the hack with the margin ...

Luigi Guevara, Uppsala, SE

MB: There are a couple of ways you could build this layout in CSS [see images above]. Dudley Storey demonstrates how to use CSS multi-column layout here: netm.ag/column-273. However, the items flow vertically, whereas it appears your items need to flow horizontally, with the fourth item sitting below the first.

We can achieve something like this with Flexbox. Set your flex container to `flex-direction: column`. Then use the `order` property (netm.ag/order-273) to re-order your elements so they appear to flow horizontally (demo here: netm.ag/horizontal-273).

Unlike the multi-column method, however, you need to put a fixed height on your containing element, otherwise the items will display in one long column. This still feels a bit hacky, and only really works with a fixed number of items. For a more flexible solution you could use Masonry.

REACT

REACT QUIRKS

Any thoughts on some of the React quirks discussed in this post: netm.ag/weird-273?

Paul Bunkham, Brighton, UK

BA: Some of the quirks described (such as the `` wrappers around each text node) are simply implementation details of the current React version. Fixing some of the other 'quirks' would require changes to JSX or React's API, but we're open to those too – there's

3 SIMPLE STEPS

What is the best resource to start learning Flexbox?

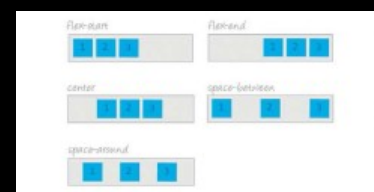
James Fox, Manchester, UK

MB: There are some fantastic resources around. Of course, the best way is to start playing around yourself, but here are some top guides to get you up and running:



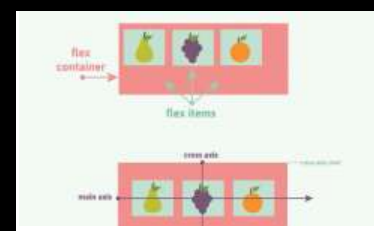
WHAT THE FLEXBOX?

+ This is a free, 20-part video course by developer Wes Bos (netm.ag/what-273). Wes does a great job of explaining the concepts of Flexbox in bitesized chunks. Perfect for whenever you have a few minutes to spare.



CODROPS' FLEXBOX REFERENCE

+ This article by Sara Soueidan (netm.ag/codrops-273) is – like everything Sara writes – both comprehensive and easy to follow, explaining complex concepts well.



FLEXBOX CHEATSHEET CHEATSHEET

+ My absolute favourite is Joni Trythall's Flexbox cheatsheet cheatsheet: netm.ag/cheat-273. It can be hard to remember all the various Flexbox properties, and this is the perfect 'at-a-glance' guide.

- an active discussion within the issues of github.com/facebook/jsx. If you're worried about any 'weird parts' in React, give it a try and see how it feels. Most people who try React aren't bothered by the things mentioned in the post.

PORTFOLIOS

BRANCHING OUT?

Should one focus on consistency with, or branch out to cover more ground?

Simon Valev, Varna, BG

CM: This is a difficult question. Everyone is different, as are their circumstances, passions and experiences. I've made a career out of challenging myself to do things I was totally unqualified for. This has led to a rather eclectic body of work in my portfolio, and I'm happy about that. But others specialise to the nth degree, such as Sergey Shapiro and his masterful calligraphy. That suits him, and I tip my hat to his brush.

I believe mastery of creation and composition is usually much more important than mastery of tools. So work on whatever satisfies your creative itch, or whatever honourably pays the bills, or both, and you're bound to have a respectable body of work.

REACT

WHY SPAS?

Why should I use React? My focus is HTML, CSS and design. I don't 'get' the need for single-page applications.

Laurence Knutsen, London, UK

BA: If you want a website of static pages that aren't interactive, React probably won't help you much. Most of React's own site is built with plain HTML right now. But as soon as you start building out

interactivity in your pages – whether it's a nav bar that opens when clicked or an entire dynamic app like Google Docs – tools like React become indispensable. It would be impossible to build something like Google Docs without making a single-page app, and those pages are where React really shines.

But even if your pages are mostly static and reload entirely when navigating, you may want to build some reusable components in React, like an accordion or an image carousel. React excels at creating reusable components that can be built into larger pages: you can develop each React component in isolation and they won't interfere when you put them together.

HTML5 GAMES

MEMORY MOANS

I want to reduce memory usage/processing power. What would you recommend? Sprite sheets?

Jack Bello, Texas, US

TP: Reducing overheads will ultimately give your players a smoother, more enjoyable experience. Sprite sheets are a great way of minimising draw calls to the GPU – just make sure they are only loaded as and when you need them. Instead of having a single preloader, load relevant textures into memory before a level starts.

Doing it this way will make sure your players aren't waiting too long for your game to boot, and it will spread the CPU strain across smaller, bite-sized chunks. This is especially important on mobile devices, where memory is at a premium.

PORTFOLIOS

PORTFOLIO PITFALLS

What are the classic pitfalls to avoid when creating an online portfolio?

Jasmine Hosey, NC, US

CM: Opinions vary widely on this point. Here's mine: there really are no pitfalls, with the exception of failing to have an online portfolio. On occasion I read articles denouncing the use of things such as skill bars showing one's proficiency in software tools or creative skills, saying they're trite or misleading.



2D games Yak Dash was built using Unity

But guess what? As employer or potential client, sometimes I appreciate shortcuts – even skill bars – when evaluating a candidate, for instance if I'm thumbing through several portfolios in a sitting. So, I suppose I'm suggesting you ignore the cynics and do whatever works best for you, and you alone.

HTML5 GAMES

UNITY FOR 2D

What are your thoughts on Unity for 2D games? Pros/cons?

Nedeljko Šarić, Pacov, CZ

TP: Yak Dash was the first proper 2D game I made with Unity and I have not looked back since. Being late to the party, I was initially very tentative about leaving my comfort zone of code and IDEs. You soon realise how much time is saved when you get to grips with Unity's visual editor. No longer am I recompiling 100 times to get my buttons to align perfectly! Cross-platform support and insane performance make Unity a brilliant option for 2D games.

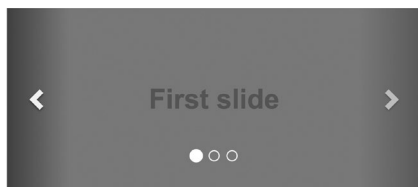
CSS LAYOUTS

IN THE NEST

Is nesting flexboxes a good idea?

Mustafa Kurtuldu, London, UK

AA: Definitely! Nesting allows you to take advantage of Flexbox features and build some really complex layouts. This cool tutorial (bit.ly/1ih52FG) uses nested flex containers to build a set of dice. I can find very few downsides to nesting, the only exceptions being some issues in IE10 and 11, which seem to relate to specific use cases, rather than being a problem overall. Just be sure to test your code in as many browsers as possible. ■

Carousel

Interactive Dynamic components, like this image carousel, are at the heart of every modern site

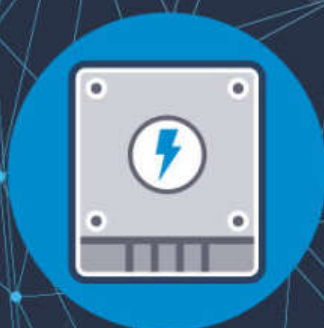


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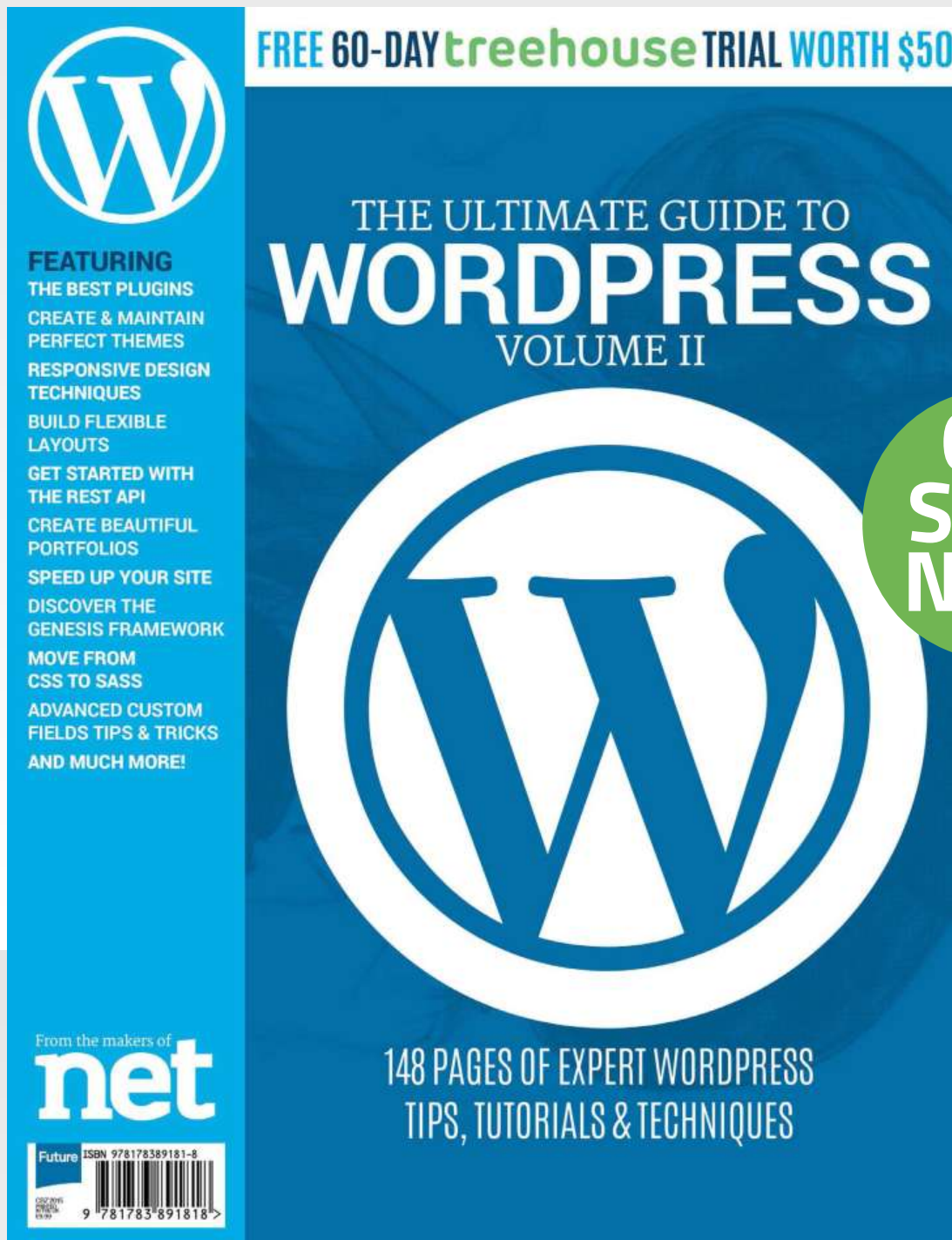
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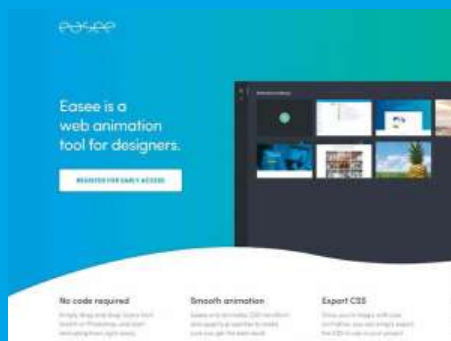


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FEED

People, projects
& paraphernalia

THIS MONTH FEATURING...



SIDE PROJECT OF THE MONTH 16

Product designer **Steven Fabre** explains how he created Easee to take the pain out of web animation



CLIENTS FROM HELL 17

A web designer faces a foul-mouthed client with an interesting understanding of the basics of doing business



WORKSPACE 18

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NEED LIST 19

Web stuff we want this month, including an archive of parametric icons and a new prototyping app



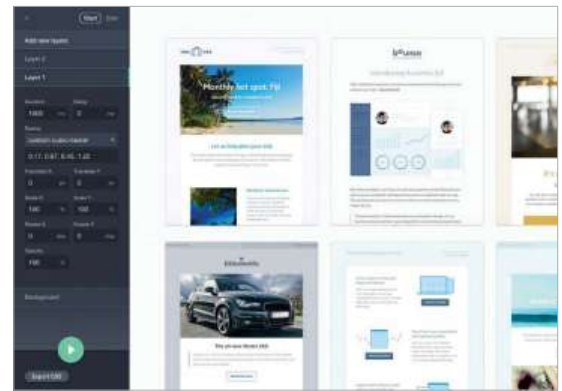
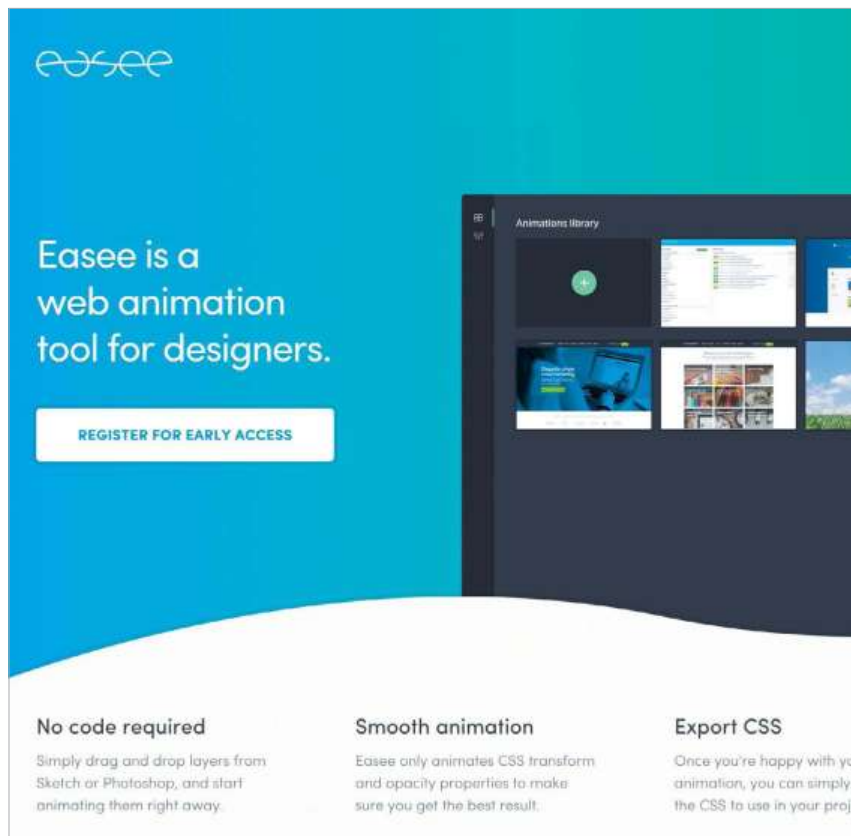
BEYOND PIXELS 22

Exercise-phobe turned marathon man **Patrick Fulton** explains how he got into long-distance running



EVENT REPORT 23

Marc Thiele runs down the highlights and takeaways from the third (and not quite final) HybridConf event in Dublin



EASEE

Product designer **Steven Fabre** went back to basics to create this web animation tool

★ SIDE PROJECT OF THE MONTH



INFO

job: Product designer,
Campaign Monitor

w: stevenfabre.com

t: @stevenfabre

> net: Tell us about Easee ...

SF: Easee (easee.design) is a simple and intuitive web animation tool. It's a graphics editor extension – just design in Sketch or Photoshop, then drag and drop your layers into Easee to animate them. You can share your work and export the generated CSS.

net: What inspired you?

SF: I was inspired by Ben and Dave, Campaign Monitor's two founders. They started out in Ben's dad's basement and built a company with an amazing culture. I thought, what's stopping me from building my own thing too and seeing how it goes? I now have thousands of people using my product.

net: Where did you get the idea from?

SF: There were a lot of prototyping tools out there, but they had too many features, required you to code, and tried to solve every problem. I decided to build

a ready-to-customise skeleton prototype to help other designers at Campaign Monitor create CSS animations. That eventually became Easee.


net: Did you encounter any challenges?

SF: Many! Firstly, technical challenges – I'm a designer and I had no idea how to build it. So I just got started, made tons of mistakes, read tutorials and constantly asked friends and colleagues for feedback. Secondly, personal challenges. It's a big commitment to dedicate most nights and weekends to your own thing without knowing if it's going to work. Talking to people was the best way to overcome this.

net: What skills did you pick up?

SF: I learnt more in the past six months working on Easee than I did in years at my day job. I learnt backend code and modular JavaScript. I learnt how to manage my time better. I learnt to compromise. I learnt about branding. I learned about marketing. The list goes on ...

net: Has the Easee project helped you in your everyday work?

SF: It helped me spot and fix usability issues only customers would see, as Easee made me become a real customer of Campaign Monitor. 



POTTY MOUTH

Exclusively for net: the latest in a series of anonymous accounts of nightmare clients

* CLIENTS FROM HELL

> A few years ago, I was hired as a web designer for a company that specialises in wooden furniture. Despite a clear, signed contract, three months of waiting and numerous reminders, I had still not been paid. Every time I contacted my client, he assured me my payment was coming soon, but that he had 'difficulties' that he needed to 'iron out' first. Eventually, my patience for his antics ran out.

Client: You're always so impatient! Your money is coming. Can't you just give me a break?

Me: Sir, this is at least the 10th time we've had this discussion. Starting next week, I will have to start compounding the late fees. If you still withhold payment, I will be forced to bring this to the small claims court.

Client: What?!

Me: According to our contract—

Client: F**k you! You think you can f**k me over some technicalities?! I've been to business school! This is illegal!

Me: Sir, the contract—

Client: If that's how you're going to treat a loyal client, I'm firing you. I'm done with your attitude!

Me: Fine by me. But I still expect payment before—
Client (yelling): Payment?! You're fired!

Me: Once again, we have a contract—

Client: F**k you! We'll take you to court over this!

Me (fed up): Very well. I will sue you for non-payment, and you will have to pay my fees as well as court fees. I don't see how that's a good business decision, but I haven't been to business school.

Client: My lawyer will crush you!

Me: There are no lawyers in small claims court.

Client (brief silence): F**K YOU!

Three days later, I receive a phone call from my client's boss.

Client's Boss: Look, I'm very sorry this escalated like this. Please don't sue us. I've terminated [Client]'s contract.

Me: I'm sorry too, but he really left me no choice.

Client's Boss: So ... Since he hired you, and I fired him ... I don't need to pay you, right?

He was dismayed when I informed him that I still required payment.

CLIENTS FROM HELL
clientsfromhell.net



* HOW TO

COMMUNICATE WITH REMOTE WORKERS

It can be tricky to keep in touch when you aren't all in one office. How do our followers cope?

SLACK

Slack is by far the most popular way of communicating amongst our followers, often coupled with Skype. @psdesignuk turned to Slack thanks to its "easiness and great user experience".

TRELLO

For project tracking, Trello took the crown. @TerminallyWill suggests "Trello is great for task-based comms and Slack is great for discussion-based comms. We also integrate the two for perfect harmony." @fruitbowlmedia agrees that Trello is ideal for sharing data with clients as well as colleagues.

PAPER TRAIL

Video calls are great, but it's worth getting it in writing to ensure nothing is missed, says @RichardCarter: "Always include a followup email with an actionable list of responsibilities and deadlines".

ALTERNATIVE APPROACH

@Aquatium suggests Zoom for video meetings and JIRA for task reviews. @LucPestille also added some new methods to the list: "Slack, Google Hangouts, email, third person Chinese whispers, carrier pigeon, note on a brick through their window."



SWEET AS HONEY

Rebecca Plumb gives a tour of the vintage furniture and artistic flourishes in Honey Agency's workspace

* WORKSPACE

➤ I believe creativity is strongly linked to one's environment – an energising space will bring better ideas. As Honey Agency's creative director, good ideas are my job. In April, we relocated to the MARRS building, a former storage warehouse that has been transformed into a vibrant mix of shops, restaurants and office space in Sacramento, California.

We were drawn to the location, then we fell in love with the open ceilings, natural light from the huge windows and the open floor plan, which has made us more collaborative than our previous, more traditional office. The bars and restaurants downstairs become

additional meeting spaces to work or relax.

When Meghan Phillips and I launched Honey in 2009, we built the agency on equal parts marketing (her expertise) and design (mine), creating a name for ourselves in the food and beverage industries. Since then we have grown our team to nine, providing clients branding, advertising and digital experiences while utilising our Hex Method.

We don't credit the pachira (1) (money tree) for our success, but we might be a little superstitious about it. It was given to us when we opened and has grown from a small plant to an actual tree.

I have a lifetime love of interior design, so while on maternity leave last winter I was able to focus on 'Honeyfying' this raw space so it truly felt like us. We installed café lights (2) to make the open ceiling feel cheery, and warm up the industrial bones. We rescued my nana's 1950s french provincial furniture from storage, and had it recovered to become the focal point of The Buzzworthy Lounge. The hot pink sofa (3) greets clients when they arrive, but is also the perfect place for happy hour cocktails with the team.

One of the more unique aspects has to be the handpainted walls (4) in the Lounge and conference room. Painted by a local muralist, we were able to get the exact look we wanted, including gold and silver metallic accents. ■

* PROFILE

Rebecca is co-owner and creative director of Honey Agency (honeyagency.com). Follow the hive on Instagram @thehoneyagency



★ NEED LIST

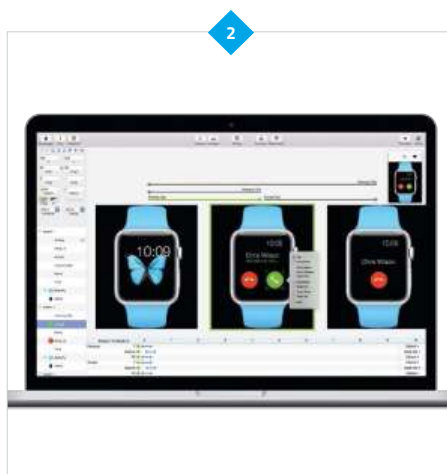
STUFF WE WANT

Small objects of web design wonder: from an updated guide to CSS rules, to an archive of parametric icons



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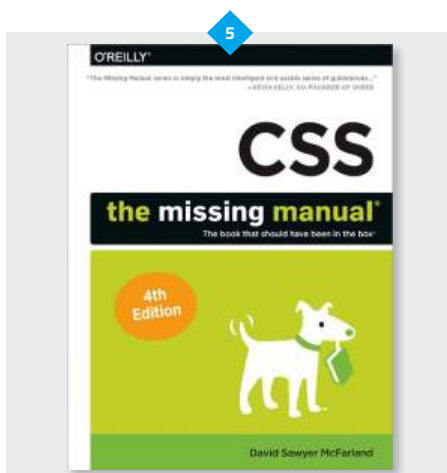
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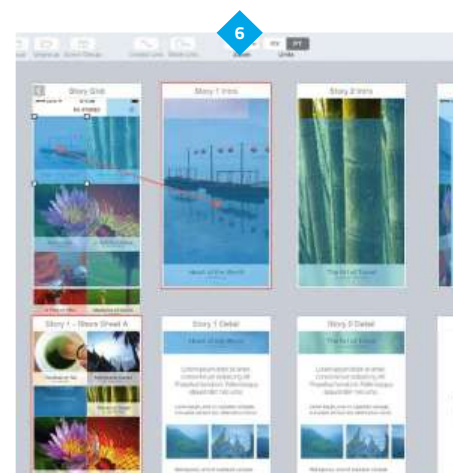
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What we think

(1) Learn what build tools are and how they can help automate your workflow in this useful ebook (netm.ag/tools-273). (2) Animate your user interfaces easily with this straightforward app. Principle works on mobile, desktop and watch (netm.ag/principle-273). (3) Keep bosses off your back with Wake, a private space where teams can keep track of what everyone's up to (netm.ag/wake-273). (4) Thousands of parametric icons are at your fingertips with Futuramo. Built for businesses and personal use (netm.ag/futuramo-273). (5) Cutting-edge CSS tips and tricks are revealed in this latest edition of a must-have manual (netm.ag/cssmanual-273). (6) Flinto is a streamlined app that lets designers create comprehensive prototypes. With a few taps you can create animations, transitions and scrolling areas (netm.ag/flinto-273).



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STUFF I LIKE



HANNAH DONOVAN

Product designer

hannahdonovan.com

OFFICE LENS

An app with a boring name, made by Microsoft. I know – whaaaa? But hold up, because this thing is so good for taking pics of whiteboards, you'll never go back. If you do a lot of collaborative product strategy/sketching, this is for you.
netm.ag/lens-273

NOTES

Tools don't have to be fancy, it's all in how you use them. Notes on my iPhone has four lists: Hustle, Life, Ideas, Recommendations. I live by these four. I also use Notes for a lot of longform writing in snatches of time. Most of my talks have been written in Notes and I'm currently sketching out a

POCKET

If you haven't guessed by now, my phone is my go-to. Pocket elegantly solves the read-later/offline problem. I send articles to Pocket and stay abreast of the industry on the J/Z train or while traveling. No internet? No problem!
getpocket.com



MARATHON RUNNING

This month ... web developer and former exercise-phobe **Patrick Fulton** explains how he embraced running

★ BEYOND PIXELS

> One late-autumn night in 2001, I put on way too much ill-fitting, heavy, dark clothing and decided to go for a 'run' on the back streets of my neighbourhood. Being an overweight kid and teen, I had never known what it was like to work out, and I certainly wasn't one to lace up a pair of shoes and jog in public. But I had grown sick and tired of feeling sick, tired and unhappy with my body – so I had to start somewhere.

What happened next was predictable: I ran as hard and as fast as I could, and I only made it a few blocks before I was completely winded and dripping with sweat. I felt like such a beginner – but also like I was doing something to make an improvement in my life. So for the next several weeks, I faithfully put on my gear and went running every night. I managed to turn those runs into a routine, and I looked at my small gains as an incentive to continue running.

In May of this year, I completed my fifth marathon. My goals for running now are simple: first and foremost, finish. Secondly, finish strong. And third, finish without injury. Everything else is a bonus.

I'll be the first to say that I never imagined myself as a runner, least of all someone who regularly runs marathons. When I talk with people about running, I hear some very quick responses: "I didn't even drive 18 miles today,

and you did that for a training run?" I always reply by saying that any run is an accomplishment. There are plenty of people who do not have the chance to run for leisure, and I'm lucky to have the opportunity to do this.

Running has become meditative for me. On shorter runs, I keep things very low-tech, often leaving everything behind except my house keys. On longer runs, I carry my mobile, but reserve it for emergencies. Instead, I load up my trusty iPod Shuffle (that I won at a web developer meetup in 2008) with music or podcasts, and enjoy the few hours of alone time.

I've also discovered that my running journey has paralleled my career as a web developer. When I first started writing code, I had no idea what I was doing, frequently felt out of place and exhausted, and often thought that I would never progress. But, running and web development have both taught me that so many things in life aren't sprints, they're marathons, and when you're in the thick of things, it's not easy to think with that long view. ■



★ PROFILE

Patrick (@patrickfulton) is a runner, former punk rock kid, dog owner and web developer at Bearded in Pittsburgh's historic web design district



EVENT GUIDE

INTERACT

DATE: 20-21 OCT

LOCATION: LONDON, UK

This conference has attracted leading authorities in user experience, research and digital design. Vanessa Kirby and Oliver Blank will take a techy and scientific delve into the neurology and psychology of digital, as they believe a truly engaging experience must come from beyond the screen.

2015.interactconf.com

KEEP RUBY WEIRD

DATE: 23 OCT

LOCATION: AUSTIN, TX

This Texas event boasts a lineup of Ruby masters including Sandi Metz and Patrick McKenzie, with Aaron Patterson to MC. The conference organisers have also promised sandwiches.

keeprubyweird.com

BEYOND TELLERRAND

DATE: 2-4 NOV

LOCATION: BERLIN, GERMANY

It's the mighty tellerrand's second year in Berlin. The schedule includes talks on mobile accessibility from Marcy Sutton, 'the hidden plot device' from Steph Troeth, and the physical web from Scott Jenson.

netm.org/tellerrand-273

FFCONF

DATE: 6 NOV

LOCATION: BRIGHTON, UK

Previously known as Full Frontal, this event gathers the brightest and best of the web to explore issues surrounding frontend developers. It's so good (and affordable) that this year's event has officially sold out already.

2015.ffconf.org

HYBRIDCONF

At the third HybridConf in Dublin, talks ranged from motivational to practical. **Marc Thiele** was there

★ EVENT REPORT

DATE: 20-21 AUGUST 2015

LOCATION: DUBLIN, IRELAND

URL: hybridconf.net

HybridConf is known for its mixed lineup and diverse topics, and the third edition in Dublin promised exactly that. At the time, founders Zach Inglis and Laura Sanders had announced it would be the final outing for the event.

Mr Bingo opened the show by sharing the story of his latest Kickstarter campaign: a rap video, which attracted 400 per cent funding. Des Traynor followed with a comprehensive discussion of product design, offering useful insights into the planning and building process. He underlined the importance of focusing on core features instead of making your product feature-rich and bulky.

A highlight of the day was Bastian Allgeier's session about the mistakes he made with Zootool, and how these errors helped him when creating Kirby, his file-based CMS. The session also showed some of Traynor's earlier advice (particularly that on core features) in action.

The first day was closed by Dr Ayanna Howard, who demonstrated that robots already are a big part of our lives. But instead of robotic systems from industrial domains, she showed how

intelligent robotics for real world applications in health and in your home can help improve the quality of your daily life.

Allison House opened day two with a motivational talk about learning new skills and having no excuses for not starting from scratch occasionally. Chris Murphy encouraged attendees to go deeper into the things we're doing and using. He argued that we often use software and accept opinions without asking 'why', which is vital if we are to actually understand things.

Kai Brach showed pitfalls as well as the benefits of running an indie business, and Aaron Draplin closed the day perfectly with a talk that led the audience through his amazing design career.

The days were spiced up with five-minute 'pocket talks', which kept the flow snappy. Inglis spent the event dodging questions about if it really would be the last ever HybridConf, and it has since been revealed that it will indeed return. It's not easy to stop doing, what you love, is it? **A**



Marc (marcthiele.com) is a designer, event organiser and author from Germany. He started the beyond tellerrand conference in 2010

★ PROFILE

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TURN TO PAGE 51

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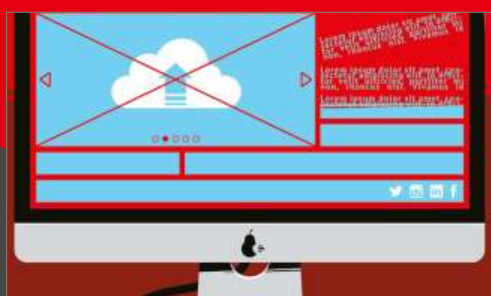
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VOICES

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RESPONSIVE CONTENT MODELLING 28

Steve Fisher walks through the process of prioritising your site's content so it can live on any device



INTERVIEW

32

Creativity evangelist, author and speaker **Denise Jacobs** explains why helping others discover their inner creativity is her calling



Q&A

41

We chat to UX expert **Heydon Pickering** about the secret to great interfaces, and why writing is the best way of learning

* PROCESS

INVISIBLE DESIGN SKILLS

Christopher Barr explains how mindfulness and thoughtful management can help foster a healthy design environment

> There are many techniques you learn as a designer to improve your work. But what skills build a better design environment? These invisible skills (as I call them) are not something you're formally taught. Your art director may teach you how to present your work, but I am sure no one will sit down and tell you how to create good relationships with your stakeholders, developers, marketers and anyone else in your feedback loop.

In order to promote these types of relationships in my teams, I've taken inspiration from meditation and philosophy to generate my desired design dynamic. I follow these principals every day.

MINDFULNESS

We all need to be mindful of others throughout the day. In meditation, mindfulness is a practice used to focus your

attention on a physical sensation, like your breathing. Even if you don't practice meditation, you can learn to use this technique in your everyday communication. Next time you're in a meeting, notice when you've stopped listening and refocus your attention on the speaker.

Listening may sound obvious, but when you pay attention, you might realise your mind has wandered away, thinking about the project. You could find yourself getting angry with the critique, turning thoughts into defences. If you're not listening, you're robbing yourself of the ability to ask intelligent questions.

When your attention is distracted, you lose the speaker's train of thought. Distracted designers tend to ask repeat questions, or fail to consume the information at all. Give whoever is speaking the respect of listening and they'll pay the same mindfulness back to you.

TEAM CREATIVITY

Get your stakeholders sketching. Why? Words sometimes get the point across, but everyone can react to a design. Getting your team up and drawing breaks the language barrier and makes everyone an active participant. Encourage your team to put pen to paper and start sketching.

Make rudimentary doodles, and get the non-designers comfortable and active in the creative process. Start drawing early and often throughout your project. Even copywriters can provide typed out headline layout solutions.

Bringing your whole team together to collaborate on the design brings a sense of ownership over your project, which leads to better work from everyone. An unattached engineer isn't compelled to deliver precisely engineered designs like a highly engaged engineer is. The same goes for anyone involved in your project.

DESIGN KING

The philosopher Confucius said, "The king's mind is the wind, and grass are the minds of the people: whither the wind blows, thither the grass bends."

Let's replace 'king' with 'designer' and imagine 'the people' are your colleagues and stakeholders. A virtuous designer will



It takes many to build a product.
Not your idea? Not a problem. Being able
to recognise a great idea is smarter
than needing it to be your idea

own up to mistakes, give others credit, share lots of ideas and maintain an inclusive design process. In return, your colleagues will bend with you and give you the same respect.

If you rule as a dictator, closing your design process to new ideas, your colleagues will stick to their opinions and shut down yours. A successful Design King knows it takes many to build a product. Not your idea? Not a problem. Being able to recognise a great idea is smarter than needing it to be your idea.

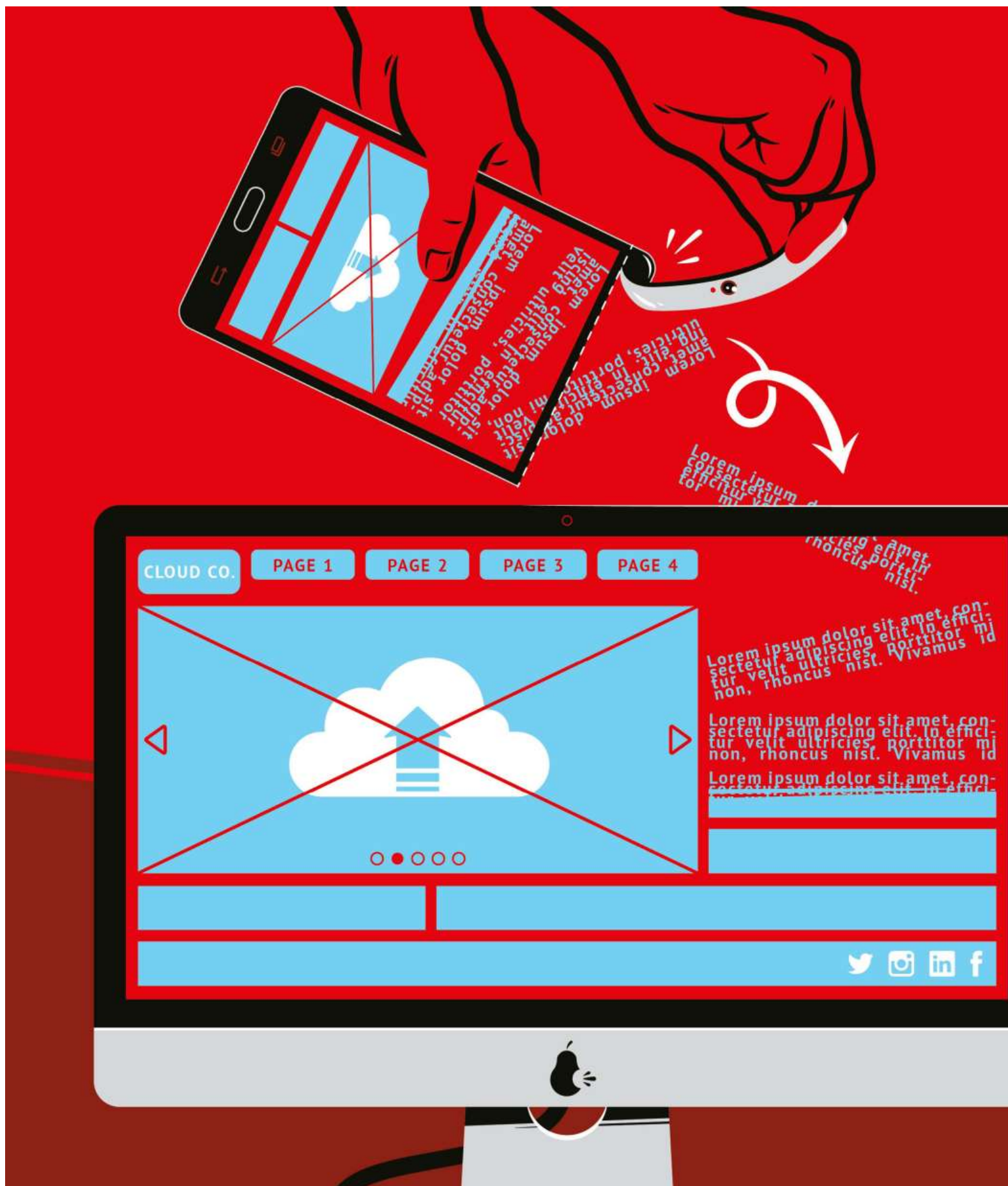
Design Kings listen to everyone, encourage feedback, and speak for the user, but they also know that taking critique verbatim is not wise. You must consider the consequences of every edit in the role of your design system.

Yes, make edits, but don't make edits just because so-and-so said so. Instead, develop a better solution to the problems. Trim copy, reorder the page, animate, and so on, to improve your design. Make design your solution to your problems.

An open design environment will make presenting ideas and creating great work easier on your team. Getting great design out the door means not going at it alone. These principals are about creating an environment in which design can thrive. A little mindfulness, encouragement and attention to your team can contribute to creating that environment. ■

* PROFILE

Christopher (@CBARRRR) is a senior product designer focused on mobile and emerging interfaces (CBARRRR.com)



★ PROCESS

RESPONSIVE CONTENT MODELLING

Illustration by Ben Mounsey

Steve Fisher takes a look at how to nail down the core piece of content around which your whole site orbits

> Without content, a website is a black hole. Finding that core piece of content from which all the rest of the pages and elements hang saves us from being sucked into the black hole of building fancy buckets to hold Lorem Ipsum. Finding the core content of your website means the entire team (vendors, stakeholders, audiences) will walk away with a common understanding and vision. Every time you write or revise, you'll think about that core piece of content and refocus. The content authoring experience will become what it was always meant to be: dreamy.

To find this core content, we use something called a content modelling workshop. In this article, I'll take a closer look at our process.

TEAM TALK

First off, you need people in the room who have the right passion and information. A team might include a UX lead, content strategist, developer, client project sponsor, client IT lead and client content specialist. You may not have all these specialists for every project, but there are probably people with these general responsibilities in their job descriptions. The goal is to involve people who understand the problem, are passionate about solving it, and have the authority to make decisions.

Responsive content modelling is a team-building exercise, but with fewer trust falls and more Post-It notes. Trust is crucial; everyone needs to feel safe to speak freely. For this, getting everyone together is key. This

means being locked in a room together for anything from a couple of days to the better part of a week. Take breaks as a group, and get lunch delivered.

BE PREPARED

In preparation for your workshop, you need to inventory everything you currently have. You have to know what exists to know its purpose and to see patterns.

Next you need to set some high-level goals for the site. So you don't fall into the trap of letting opinions guide your decisions, it's important you know your audience and its needs. If you don't know who you're talking to, it's pretty damn hard to write for them.

You then need to work out the UX vision. Fire off a quick draft to get it out there and ensure it is pointing the group towards the right target. Finally, establish the project's design principles. These are the guideposts for all decision-making during the project. They're the values or 'why' statements that will keep you moving towards the vision. Think of them as the guiding principles of the project.

Nailing down the 'who, why and what' is crucial. You need to know your purpose because you can't know what your central content type is without knowing who you're communicating with and why.

CONTENT TEMPLATES

With this framework established, you can dig into the content modelling phase of your workshop. You're going ►

- ▶ to prioritise every content type. Here you look at all the content views you'll need: the homepage, landing page, standard content page, news releases, application templates, advanced search and so on. Often there will be an established list, based on an earlier contract.

You want to begin to prioritise all these content views by comparing content templates with the vision and goals. You need to consider questions like: Where will the content live? Where will the most important content to the primary audiences be found? Will it live on the homepage or a landing page? Is this a page where search is dominant?

In this phase, you must agree on everything; no compromise. This is a must. Focus on audience needs and toss opinions aside. This is the secret to delighting audiences and giving them what they need. It will be important to know how to argue well and speak your mind, so you need a strong facilitator. This can be anyone who understands a project's process and purpose. The best facilitators are often the experience architect or the content strategist.

If you start to label items with a four, they're probably pointless. Everything should point people towards the core purpose of this content. Some priority three elements might reveal themselves as necessary and some priority ones could get demoted. Things will shift as the team progresses.

NARROWING DOWN

You're not done yet! Now you go back through the three priority groups and assign a priority order to each element within each group. Be prepared to duke it out, laugh, cry, and sweat through this. It's not about compromise, it's about focusing on what's best for the audience. This is why you established a framework through our UX vision, design principles and high-level goals. Return to those guideposts for every decision.

Something must be the very first priority and something must be the last. Take it seriously and resist the urge to quit – I promise it will be worth it. This is a less technical, but more human-centred method of content modelling. When you're done, every content type will

In a multi-device world, content should adapt to all platforms and be represented consistently. You can do this by making sure that your core content type is the first thing users see on any device

Remember, there is no such thing as the client team and the vendor team: there is only the project team. You can't successfully find that thing that bonds the team and the content by working separately.

LOOKING FOR THE CORE

Go you! You found and prioritised the core content templates. Now you need to get more granular and find the unique content type everything orbits around. To do this, you list the discrete content types of your content templates: page title, contact module, featured image, teaser copy, main body copy, related items, and so on. At this point, this may include items that you're not sure you want included. We'll sort these out later.

Attach a priority level of one, two, or three to each content type or item on the list:

- **1 – Essential:** This view wouldn't be able to function or communicate the core message without this item
- **2 – Great to have:** These items fully support the core purpose of this view
- **3 – Nice to have:** If these items didn't exist it wouldn't have a huge impact on the view

have a unique priority, and content type 1-1 is the most important. This is your core content type.

PRIORITY 1-1

In a multi-device world where content can live anywhere, this is one of the most important things you can do to make your content successful. Content should adapt to all platforms and be represented consistently. You can do this by making sure that priority 1-1 content is the first thing users see on any device.

Regardless of content being accessed on a Pebble watch or a billboard, the key message remains clear. And for the 90 per cent of people who juggle between devices, they're seeing the congruence of the content.

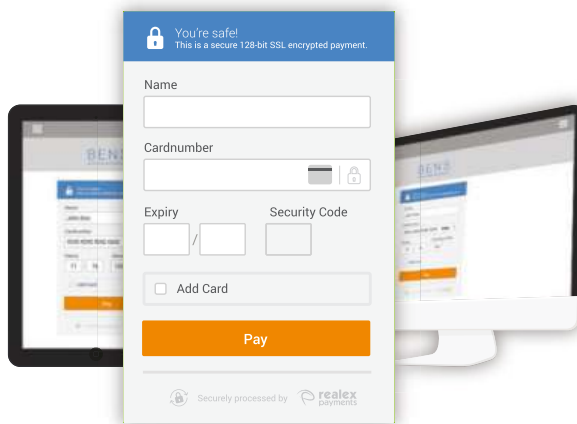
Finding the core piece of content really is the key to every web project, big or small. It will make your projects more successful and help you build a better, more thoughtful web, one content type at a time. ■

* PROFILE



Steve is the founder at The Republic of Quality (republicofquality.com) and the co-founder of The Design & Content Conference (designcontentconf.com)

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DENISE JACOBS

Words by Sammy Maine Photography by Scott Redinger-Libolt

The creativity evangelist tells all about banishing her inner critic, travelling the world and why creativity is in our DNA



INFO

job: Speaker, author and
creativity evangelist

w: denisejacobs.com

t: [@denisejacobs](https://twitter.com/denisejacobs)





➤ Forget nightmare clients and fire-breathing bosses, when it comes to creativity, there's no scarier critic than yourself. Denise Jacobs was all too familiar with that inner-detractor, only to overcome it during her time working on her 2010 release *The CSS Detective Guide*.

"I finally had a moment when I was doing the site for the book where I was basically doing criticism-free creating," Jacobs recalls. "And it was the most amazing feeling; I can't begin to tell you how amazing it feels." Eager to share the benefits of her discovery, Jacobs decided to become a creativity evangelist, sharing her process with others.

"This is the reason I started doing web design, why I make anything," she enthuses. "It's a feeling that I want other people to feel. I want them to feel this criticism-free creative process. I thought if I could help other people feel like this more often than not, then that's what I want to do with my life."

Having started off in the industry as a CSS specialist, Jacobs' epiphany understandably took a little while to gain momentum. Inspired by Aaron Walter's transition from findability expert to emotional design guru, Jacobs began to shift her speaking topics to fit into her new way of thinking.

"The irony is that my creativity talks seemed to resonate with people more than the CSS stuff," she recalls. "At the Øredev developer conference in Sweden, I gave my 'Art of Disciplined Creativity' talk, and the room was packed: people were lined up against the walls and sitting in the aisles. The CSS talk I did there had a good number of people, but nothing like the creativity talk. And that's when I thought 'this is what I'm supposed to be doing!'"

And she did. In 2014 she founded creativity and innovation collective The Creative Dose (thecreativedose.com), and now spends her time delivering talks and training to teams across the world, teaching methods to generate ideas through creative collaboration, improve communication, and to promote sustainable productivity.

AWESOME SCIENCE

But banishing your inner critic is easier said than done; it takes patience and hard work. The key to success, according to Jacobs, is to figure out where this criticism stems from and more importantly, what triggers it.



“Does it show up as compulsive busyness, does it show up as perfectionism or procrastination, or both?” she asks. “It really helps people anatomise their inner critic and then give techniques, especially for perfectionism and procrastination because I think that’s what affects people the most. It’s so you can get to the point where you’re actually creating something without your inner critic yapping in your ear the whole time and bogging the process down.”

When asked whether the more traditional web professionals can stomach her somewhat philosophical approach to working, she says it’s all down to making it as technical as possible, putting it in a context that’s closer to the comfort zone of her techy audience.

“I think it would be very easy for people to dismiss what I’m talking about if they thought it was too ‘airy fairy’ and having to deal with your feelings, stuff like that,” she considers.

“But when you start talking about the neuroscience of creativity and you explain how your brain actually goes into a different state when you’re being creative, people start to realise that it’s something we’re wired to do. Besides, everybody loves science. Science is awesome.”

When it comes to training others, Jacobs takes her inspiration from the approach of Buddhist monks: reaching a meditative

state by controlling your brain. Much like running a marathon, she says everyone has the capacity to reach this state, it’s all a matter of the right training. You teach yourself to be more creative by instilling a certain set of practices.

While this training is a solo endeavour, Jacobs recognises the importance of human interaction. “Some of the most creative times are when you’re interacting with people and you’re sharing ideas – you’re allowing yourself to be influenced by others,” she explains. “I really like to talk about creative collaboration and the innovation that comes from that.”

“Don’t play small just because somebody else thinks you’re supposed to play small”

MAKE THE CHANGE

Although being a creativity evangelist is Jacobs’ main focus, she is also incredibly passionate about diversity in the web industry. She’s the founder of Rawk the Web (rawktheweb.com),

and initiative that aims to provide resources and inspiration to increase the numbers, and visibility, of minorities in the tech industry. But, as Jacobs explains, the onus is not solely on people of colour and women to make the change.

“Everybody needs to play their part and everyone benefits from it,” she urges. “The more diversity you have, the more innovation you have and the better chance you have to have better products and services



on the market. Diversity is actually a competitive advantage.”

“If you need someone to mentor you, to hold your hand, whatever, get that and go! Don’t play small because somebody else thinks you’re supposed to play small. I think the thing is that on a philosophical level, we only have a certain amount of time on the planet, and we actually don’t know what amount of time that is. Dilly-dallying with little stuff when you want something bigger is a waste of time. It’s a revolution but also an evolution.”

TRANSFORMATION

You could say that Jacobs is in the business of transforming lives. As well as mentoring others through Rawk the Web, she’s also launched an initiative dedicated to leveraging the power of creativity to transform lives and communities: Creativity (R)Evolution (creativityrevolution.com).

She says the effects of creativity itself have the power to ripple out beyond the confines of everyday life. “When we do something creative, it’s transformative. It wakes us up, it energises us, rejuvenates us and feed our souls,” she enthuses.

“Creativity is a necessity. It’s something we’re born with naturally as children and



► it gets kicked out of us. It allows people to get permission to experience more joy and to do more work that is satisfying and really feeds their souls,” she continues. “Once you start doing that more, it gives other people permission to do that, and then it kind of spreads around and really changes things. Design changes things.”

ON THE ROAD

When we conduct the interview, Jacobs has just returned from an intensive speaking tour – something which, due to her growing popularity, seems to be a fairly common occurrence these days. “It is starting to feel like a lot of travel,” she admits. “I am actually getting to the point where I’m feeling a little ... I won’t say burnt out per se, but definitely road-weary.”

When asked how she keeps up the enthusiasm through this demanding schedule, she says it’s simply the thought of others discovering the positive effects of her creative approach.

“I get to the event and once I’m about to go on, I am so excited about sharing this content with people, and I’m so excited about being able to spark ideas, to touch people, to inspire people, motivate people. To turn them on to something they hadn’t thought about or remind them of something they already knew but forgot. That really feeds me,” she smiles.

Whilst time spent on the road is usually made up of speaking events, workshops and consulting engagements, earlier this year Jacobs found time to travel to South Africa, Zimbabwe and Zambia. “It was this great opportunity to go out and do something new

and reconnect with my chosen family,” she says. The trip also helped her get away from it all, something she considers incredibly important to creating great work.

But what also struck Jacobs was the lack of creativity in these places – a realisation that surprised her, given the reputation for handmade products many of these areas have. “You go to these markets in Africa there’s seemingly acres of what seems like exactly the same crafts. I was really struck. How did they get the message that what they needed to do was the same? Where’s the uniqueness?”

BOOK WORM

As we continue to talk, it becomes clear that Jacobs isn’t a person who does things by halves. Her latest book, *Banish Your Inner Critic*, is due to be released in the first half of 2016, and her timetable for the rest of the year is already filling up.

As well as her hectic speaking schedule and taking charge of three different initiatives, by the end of 2016, Jacobs hopes to have released three more books. “One of them is called *Hacking the Creative Brain*,

which focuses on the neuroscience of creativity. Then there’s *The Creativity Imperative*, and that is kind of an executive-level type of book that talks about the how creativity relates to a company’s bottom line,” she lists. “The last one is *The Brain Unchained*, which I’ll be turning into an illustrated story.”

Whilst this impressive reel of releases could lead you to believe Jacobs is in fact superwoman, she’s keen for others to know she has her off days, too.

“When I was writing my first book, I had two days of crying because I was so freaked out by the

prospect of writing a book. I had to pick myself up and say ‘OK, you know what? This book is my book. I got the deal. I am supposed to do this, so buck up,’” she admits.

Her parting advice? “Fire your inner critic, get rid of the evil voices in your head. It’s about being inspired, being clear, telling everyone what you want to do and taking advantage of opportunities when they present themselves.” ■

Watch Denise Jacobs’ Creativity talk from Generate 2014: netm.ag/jacobs-273



“Creativity gives people permission to experience more joy, and to do more work that really feeds their souls”



★ USER EXPERIENCE

DESIGNING HEALTH APPS

Katarzyna Stawarz explores the features of apps that help people develop healthy habits

➤ Have you ever used a smartphone app to track what you eat, count steps or start a new habit? Hundreds of apps that promise to make us healthier are a few taps away. They let us set goals and track our behaviour with the hope that this will lead to a long-term change. Unfortunately it is not that simple.

Behaviour change starts when we realise we need to change. Self-tracking apps can help here: they are great at telling us how we are doing (e.g. how active we already are). Next, we need to take action. Looking at summaries can help, but this step relies on one's own motivation, which can't always be supported by technology.

Once the intention turns into action, we must repeat the behaviour until it becomes a habit. This is where most health apps fall short: they help us repeat the behaviour, but they don't help us develop habits.

We tend to think of habits as 'things people do on a regular basis', but this is not enough for a behaviour to be considered a habit. Psychologists define habits as 'automatic responses to contextual cues'. This means that, to form a habit, we need to repeat the new behaviour in the same context: after the same routine event, in the same location, and so on.

THE STUDY

I reviewed the functionality of 115 habit formation apps for iOS and Android to understand how they support contextual cues. Turns out they don't. Almost all apps follow the same pattern: you enter a goal, set up optional reminders, and then record every day that you've done your task.

Even though context is crucial, apps do not encourage users to select environmental cues that could guide their behaviour. Instead

of forming a healthy habit, users develop the habit of using the app and learn to rely on reminders. The latter can actually get in the way of habit formation.

My colleagues from UCL and I ran two studies to investigate how reminders support habit formation compared with contextual cues. We asked some participants to use existing routine events as cues and to form action plans (e.g. 'I will do X after eating lunch'). Another group received reminders, and the rest (the control group) were simply told to repeat their behaviour.

We discovered that participants who formed action plans and relied on daily routines developed stronger habits. Those who had to respond to reminders forgot less often, but formed even weaker habits than the control group. This is not entirely surprising: if people know something will remind them, they don't even try to remember on their own.

TRAINING WHEELS

Of course, all that complicates the design of health and wellness apps. Providing reminders and simple tracking options is not enough if we want our apps to be effective in the long term. These make people dependent on the app, rather than helping them achieve real change. To ensure our users form new habits we need to remind ourselves why people use these apps.

Good behaviour change apps are like bicycle training wheels. They help you start off and guide you as you develop your skills, so you can finally ride without them. The goal is to help users make that new behaviour part of their daily routine. Over-reliance on the app can get in the way of this.

We need to change how we think about behaviour change apps. The obsolescence should be the main measure of success, and continued engagement with the app a sign of failure. So the next time you're working on an app that aims to help users change their behaviour, ask yourself what you can do to make users abandon the training wheels. Because if your app works, they won't need them any more. ■

★ PROFILE Katarzyna (@falkowata) is currently doing a PhD at UCL. Her research explores how smartphone apps could help people make healthy behaviours part of their daily routine


* DESIGN

HOW DO YOU DESIGN A LOGO?

Stand-out logos are often deceptively simple. So how can you craft a memorable mark? And when do you know when it's finished?


**GRAHAM SMITH**

Logo designer
thelogosmith.co

 My process relies on developing that one awesome idea, rather than splitting my time between a handful of less refined or diluted ideas. I avoid giving a client choices; it rarely ends well. I take time to soak up the brief, to really 'get' what is required from the logo, and the client, then set to work. Knowing when a logo is complete is mostly a combination of listening to the client's feedback and trusting my gut.


**LOUISE FILI**

Designer
louisefili.com

 I sit down with a tracing pad and a #2 pencil, and start sketching. I write the name over and over, letting it speak to me. Many pages later, it will have evolved from an amorphous jumble of letters to a more precise design. I will gather specific references, make a more informed sketch, and have it transformed on the computer. The biggest challenge is to make it look as though it were not created digitally.

**CINDY VRIEND**


Designer, JustC
justc-design.com

 I start with paper and pencil. This gives me more freedom as it means I'm not worrying about things like typography. I end up with a few ideas, which I will work on on my computer. At this stage I'm not using any colour, so I can focus on form and function. Then I start making moodboards to help me choose colours. After this I put the design away for a day or two, then have another look to see if I'm still happy. I listen to my gut; it's a great part of trusting yourself and your skills. There's a reason you're a designer and that's not because you can just put a few colours and words together in a pretty way. It's our job to show the client what will work best, and also to explain why.



LAURA BOHILL


Designer, Ghostly Ferns
ghostlyferns.com

 I take a collaborative approach. If a client asks for something completely outrageous I won't immediately shut them down, instead I'll try to figure out why they want it and what problem they think it's solving. I'll explain why this wouldn't be the best idea, then offer an alternative solution. The key is having patience and a willingness to fully understand your client, but at the same time showing you're the expert.



ZACK DAVENPORT

Designer
mrdavenport.co


 First I get an understanding of the client's needs. We'll develop a moodboard together and I'll do simple sketches of anything that comes to mind. On Illustrator I'll come up with a bunch of concepts that I'll later present to the client. I try not to delete anything during this stage, since I'm trying to get as many ideas out there as possible.

I'll continue to explore several variations, but as I get feedback from the client those explorations become more focused. This usually lasts several rounds of back-and-forth feedback. This part of the process is where we'll look at colourways. We may be considering three to five options, but we'll refine them until we've decided on a final scheme. A project is done when the client is happy and approves the final design. I'm personally satisfied when everything is pixel-hinted.



JACOB CASS

Graphic designer
justcreative.com

 In theory, the logo is done when the client approves it. However, as designers it's in our blood to get things to perfection. If a client approves a concept, you could take that concept further, or explore a variety of similar options to ensure you have the best possible solution. I believe doing this makes you more entitled to say the logo is 'finished'. Either that or when the deadline is up.




IAN PAGET

Graphic designer
logogeek.co.uk


 I start by creating goals based around the business, such as its mission, competition and target market. I then perform focused research and make design choices to meet these goals. I sketch and explore ideas, then select the best to take into Illustrator. I make copies to simplify and perfect the concept. It's important to have time away from your designs before completion, so you can polish them with a fresh pair of eyes. You know the designs are complete when they meet the initial goals and no further refinements are needed.

FURTHER READING


LOGO LAWS

 Logos have to be individual and iconic. But is there a formula designers could refer to, to make sure they're not breaking any fundamental logo rules? Designmatic has broken down the key components of logo design in this infographic (netm.ag/logoinfo-273), to keep you on the right track.

CHEATING COLOUR

 Have you ever toiled over a logo design, only for it to be thrown back in your face because it didn't stay within the client's brand guidelines? In this article (netm.ag/logocolour-273), Jason Santa Maria explains how you can take a few liberties with a brand's bible when it comes to colourways.

SYMBOL STRATEGIES

 Symbols can require a lot of work to become widely recognised. In this article (netm.ag/wordmark-273), designer Sagi Haviv from Chermayeff & Geismar explains why wordmarks can be a more effective way of advertising your business than developing a visual brand logo.



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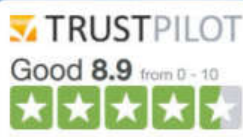
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Frank Serrels, UK



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* Q&A

HEYDON PICKERING

The accessibility expert on the importance of designing for others rather than showing off



INFO

job: Lead designer,
Neontribe

w: heydonworks.com

t: @heydonworks

net: You're the web accessibility editor at Smashing Magazine – how important is accessibility?

HP: Assuming that people are your target audience – not fish, aardvarks or robots – I'd say nothing can be more important. The main thing standing in the way of accessibility is designers and developers leaving it to other people; expert consultants. They're afraid to give it a go because they fear they might do it wrong. Have a go! It doesn't have to be perfect – nothing is.

net: You've said that you have a love/hate relationship with CSS. What do you currently love most or hate most about it?

HP: CSS gets a lot of abuse for not being a 'grown up' programming language. Folks complain it's not modular or whatever, but it's not supposed to be. Consistency is an important aspect of good visual design, and the way CSS lets you apply common styles across similar elements with minimal effort is a good

thing. I hate it when I encounter CSS that lacks this intended elegance; styles that have been removed from any kind of continuum to be micromanaged independently. So, really, it's the corporate design process I hate. CSS is all good.

net: You've done talks on unusual CSS techniques – can you tell us about some of those?

HP: I created the 'lobotomized owl selector' (netm.ag/owl-273) as an alternative to the current movement towards breaking up CSS into little isolated assets. I wanted folks listening to think about the relationships between the widgets and modules they incorporate into their designs; the lines between the dots. So much that's great about the web is predicated on lines joining things up, from hyperlinks to relational databases.

net: Does your writing help you discover new ways to work?

HP: Some people learn by reading, others by listening and some by doing. I think I learn best by writing. Often when I start out writing an article or blog post I'm only half familiar with the subject matter. Writing about it is an exercise in structuring it in my head. I always try to moot something different, because what's the value in just joining a chorus of agreement? Some take this personally and think I'm telling them they've got it all wrong.

net: You're leaving Neontribe soon. What are your plans now?

HP: I'm going to be freelancing as an accessibility consultant, focusing on UX. I already have a project lined up where I've been invited to review the product at a very early stage in the design process. This means I can help the team build in accessibility from the outset, which is much cheaper and much less arduous than the alternative. I'll also be spending more time writing, and making designer cycling clothes. I don't even cycle.

net: What's the key to a great UI?

HP: A designer may notice the difference between a 60fps transition and a 30fps one, but John Doe trying to book a train ticket online will not. A serious problem emerges when we prioritise smoother frame rates over basic accessibility and usability. And that happens because we tend to make things for ourselves. Good interfaces should be like good typefaces: transparent. Any interface which is about the interface – which draws attention to itself – is an exercise in showing off, and a failure. The best thing you can do is to user test with your target audience, not just colleagues. ■

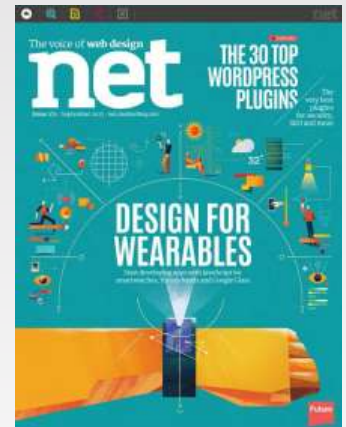
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Justin is a digital consultant by day, and by night creates the RWD Newsletter, hosts a RWD podcast and runs a RWD knowledge hub

w: responsivedesign.is

t: @justinavery



★SVG, GREENSOCK, SUIT CSS

RESPONSIVEFIELDDAY.COM

Cloud Four cloudfour.com

➤ This event site was created by the very clever folks at Cloud Four. Coming from this amazing team, you would expect a pretty awesome implementation. They did not disappoint.

“We wanted it to feel focused and relevant but also friendly and inclusive, with some of Portland’s inherent strangeness intact,” says lead designer Tyler Sticka. “The quirky, toy-like robots frolicking along the Northwest landscape represent individuality, fun and future-friendliness.”

The team has used a grid framework that I haven’t come across before: SUIT CSS. This provides a great foundation without all the extras you sometimes get with Bootstrap and similar frameworks.

The CSS is beautifully crafted with *lots* of comments to indicate why each element was used. You could argue the team was being lazy in not removing it – however, I like to look at it as a fantastic learning example that would help anyone getting into writing CSS see why and where particular rules are included.

“This site is a ton of fun, and since it’s made by Cloud Four it naturally demonstrates the responsive best practices they’re such advocates of”

BRAD FROST (@BRAD_FROST)

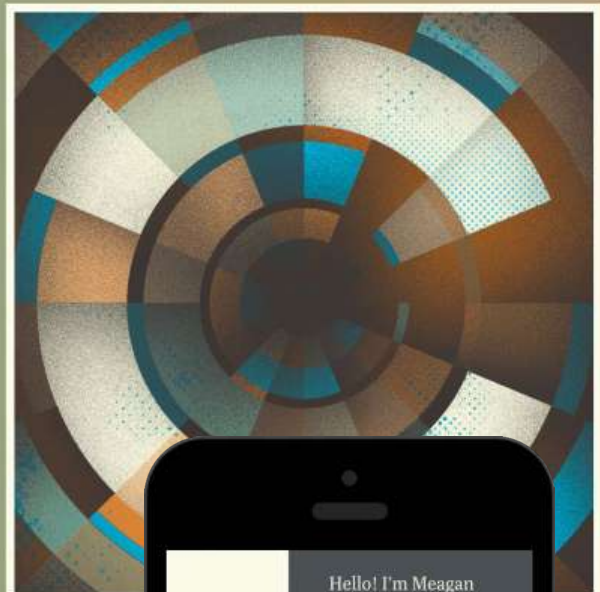


Hello! I'm Meagan Fisher, an owl-loving designer who **writes** and speaks about her **work** and life.

WRITING

ABOUT

Designy,
inspiring, or
useful things.



Lette

★TYPOGRAPHY, RWD

OWLTASTIC.COM

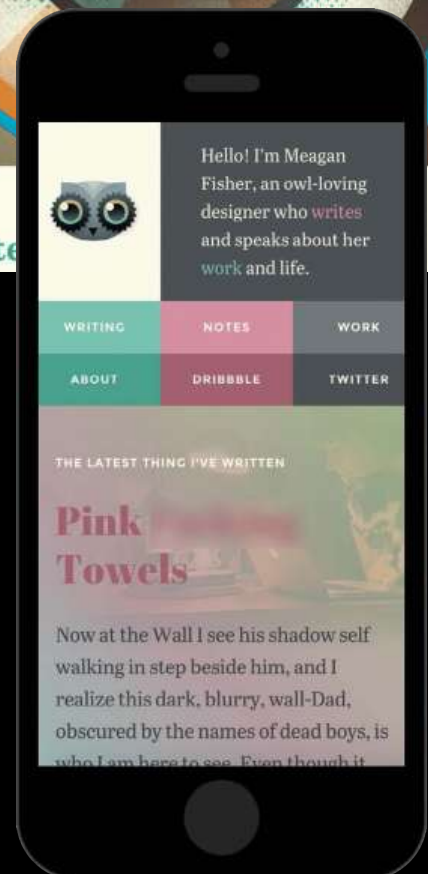
Meagan Fisher owltastic.com

> This is a wonderfully fun portfolio site and blog from the talented designer Meagan Fisher. Fisher has strayed away from the popular approach of hamburgerising the navigation, instead opting to stack it ... and it works really well.

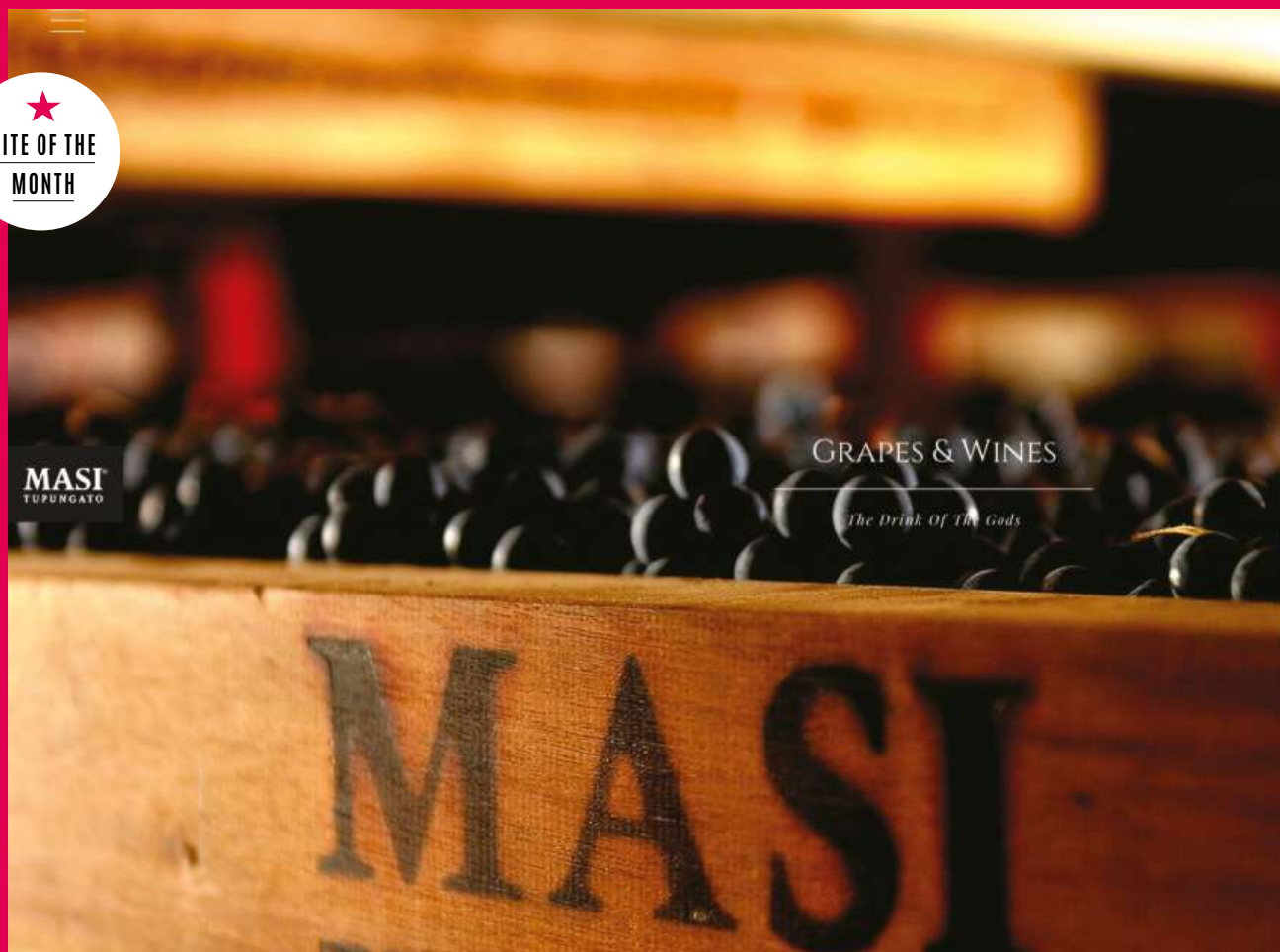
The design is a big departure from Fisher's previous portfolio site. "I wanted something that felt more like me," she explains. "With the last design I had a very stripped down site, and this left it feeling more like a template than my online home."

Fisher has created a playful, unique experience, while still being content-focused. The breakpoints give each piece of content on the page enough space to breathe across a variety of devices, and design touches such as drop shadows and gradients make the site a delight to browse. Fisher has selected the perfect complimentary fonts and paid attention to measure and line length, so reading is a pleasure.

"My goal was to let the site be a playground for the colour, imagery and layout experimentation," she smiles. "I hope it will continue to evolve as my style does."



★
SITE OF THE
MONTH



★ CSS3 ANIMATIONS, RWD, VELOCITY.JS

MASITUPUNGATO.COM

AQuest aquest.it

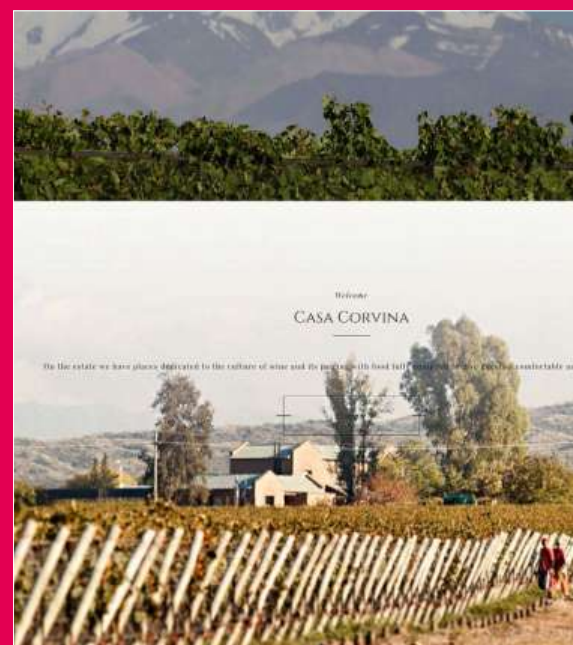
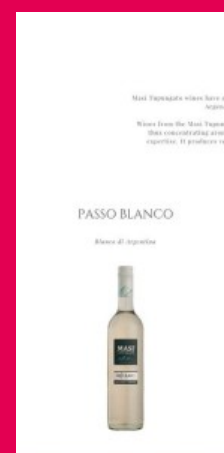
➤ This wonderful website from international digital creative agency AQuest for Masi Tupungato, a winemaking project based in Italy, almost lets the imagery speak for itself.

Unusually, a loading screen is used for each of the pages as the crisp fullscreen images load up. Usually this would be a big no-no – users want the content as soon as possible. However, here it actually improves the user's experience by ensuring images are fully loaded before any content is unveiled. The design creates a sense of empathy, leaving users feeling like they've been to the winery and picked the grapes themselves.

The site can be on the heavy side on some pages (ranging from 1.2MB up to 5MB in weight),

which could be improved by introducing some lazy loading techniques. However, despite its weight, the site is well-built, with the start render in under one second and return visits loading within the second mark too. The framework is based on unsemantic.com, which is a successor to the 960 Grid System.

When viewing the site on desktop and larger viewports, users are able to see and interact with each of the wines separately. They can take advantage of the larger screen size to display all of the wine characteristics and details side-by-side. In contrast, on the mobile site the details and description slide in and can be slid away again smoothly.



★ WEB FONTS, ECOMMERCE

Fontsmith.COM

Fontsmith fontsmith.com

➤ As you would expect, the Fontsmith site is all about the fonts. This is an ecommerce store that showcases the beautiful products it has on offer.

Unlike the type studio's individual font microsites, this uses images rather than the fonts themselves for the most part. This is mainly because at a certain point fonts cost more to load than images, so when showcasing a wide range of examples it makes sense to use bitmaps rather than font files.

An excellent test area for each individual product ensures users don't miss out on seeing exactly how each font renders on their particular device/browser before they buy it.

"When making additions to the site we wanted to be able to pick from

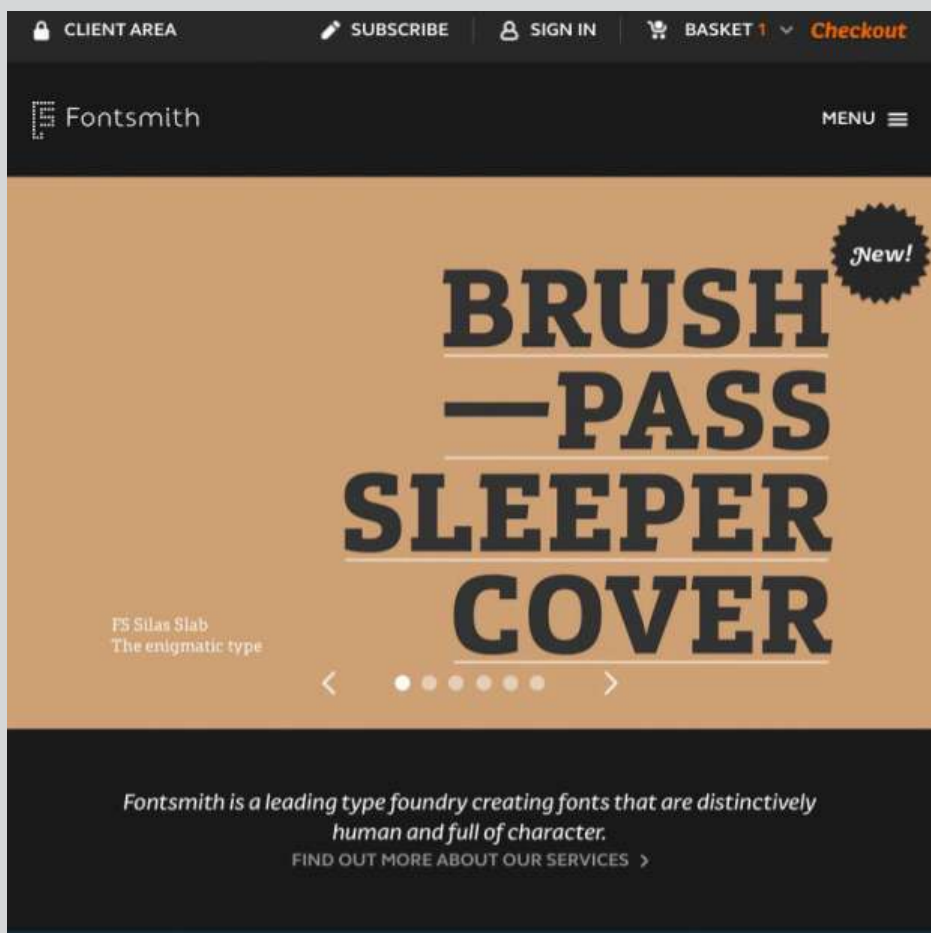
a set of modules and styles to build a brand new page without necessarily writing any new CSS," says Marcus Taylor of Taylor/Thomas. Decoupling style from content and layout in this way has big advantages, not just in terms of rendering speed but also maintainability, as developers are less likely to break layouts.

The team also worked to tell the story behind each font. "We quickly realised each font had a set of characteristics that the Fontsmith designers were passionate about. Often a single letter could embody a font's entire personality," Taylor says. "The depth of content is now so much greater, so the user really gets a thorough understanding of the craft behind each font."



"Masi Tupungato has created a beautiful example of seamless design and slick performance. A thoroughly enjoyable experience"

CHRIS BURNELL
(@IAMCHRISBURNELL)





★GREENSOCK, ANIMATIONS, RWD, ILLUSTRATION

CROPTRUST.ORG/2014

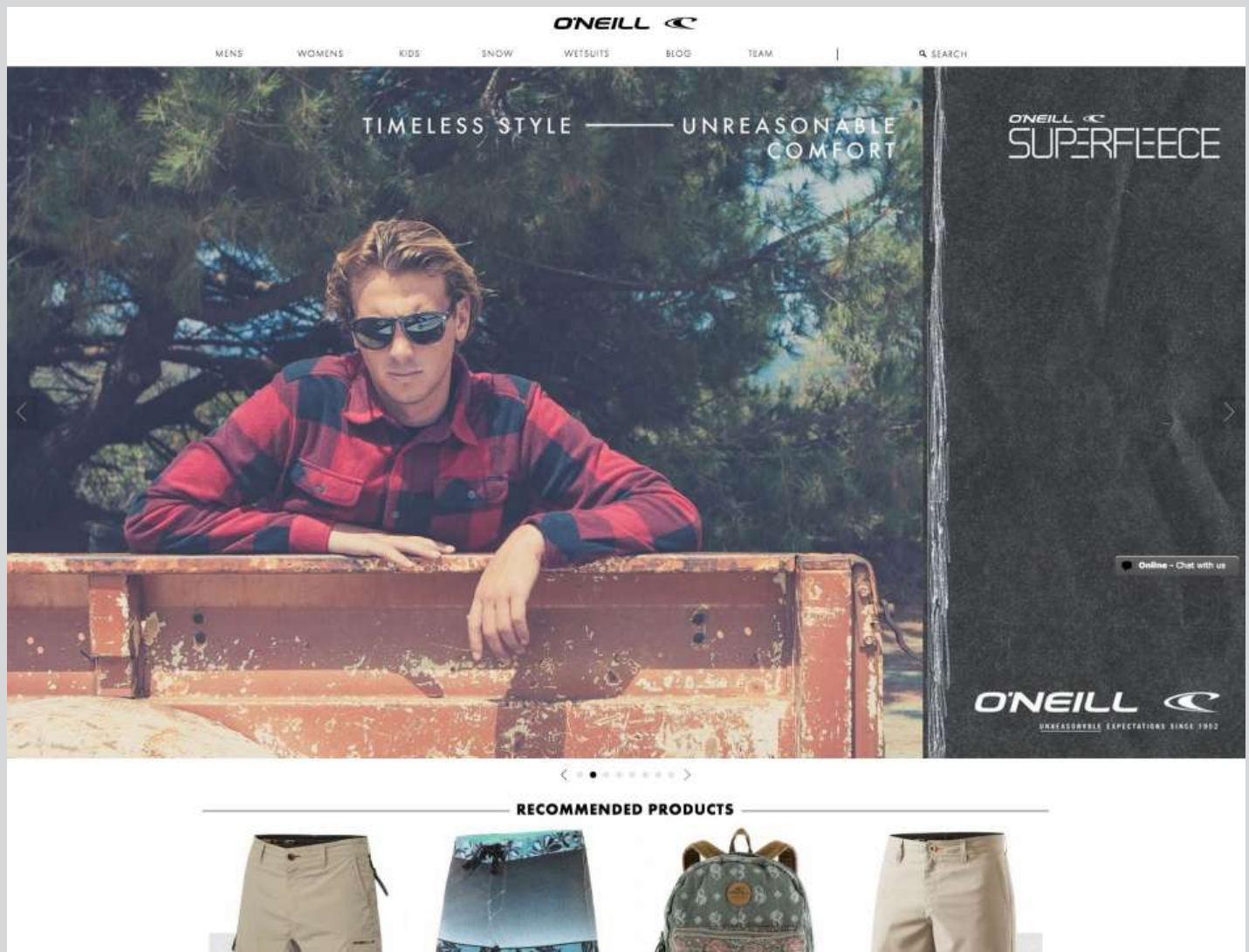
Epic epic.net

➤ Crop Trust is an international organisation working to safeguard crop diversity. Although that sounds like literally watching grass grow, the site is playful and interactive while also being informative. The team at Epic – the agency behind the site – has used some great fullscreen photography to bring the story to life.

The GreenSock library has been used for animations, including the Canvas-based triangle animations that tie back to the logo and brand; and the transition between the report homepage and supporting content. These animations are subtle and add to the experience. They are left out of the mobile experience, which is all about the content.

One of the biggest challenges for Epic was the amount of content it was required to deal with: the website would act as the Crop Trust's primary source of information. Its solution was a three-tiered structure. "The chapters and key figures were organised as panels to provide a quick and very visual overview of the report's content," Benoit Rondeux from Epic explains. "We then piled up the chapter pages so users can read each topic one after another, like a book. Atop of that, we grouped all the highlights of the year (news, events and so on) in a compact and visual timeline, accessible from the panel view."





★ ECOMMERCE, RESPONSIVE IMAGES, GRUNTICON

US.ONEILL.COM

Electric Pulp electricpulp.com

➤ O'Neill has really nailed the commerce website market. It approached its redesign with a simple aim: "We wanted the new site to have both purpose and soul on the smallest screen through to the largest." I think they nailed the brief several times over.

Built by the team at Electric Pulp, the new site is a star example of the potential impact of RWD: after the responsive version of O'Neill launched, it saw an increase in conversions of 65 per cent on the iPhone and over 400 per cent on Android, and a revenue increase of 101 per cent and 591 per cent respectively.

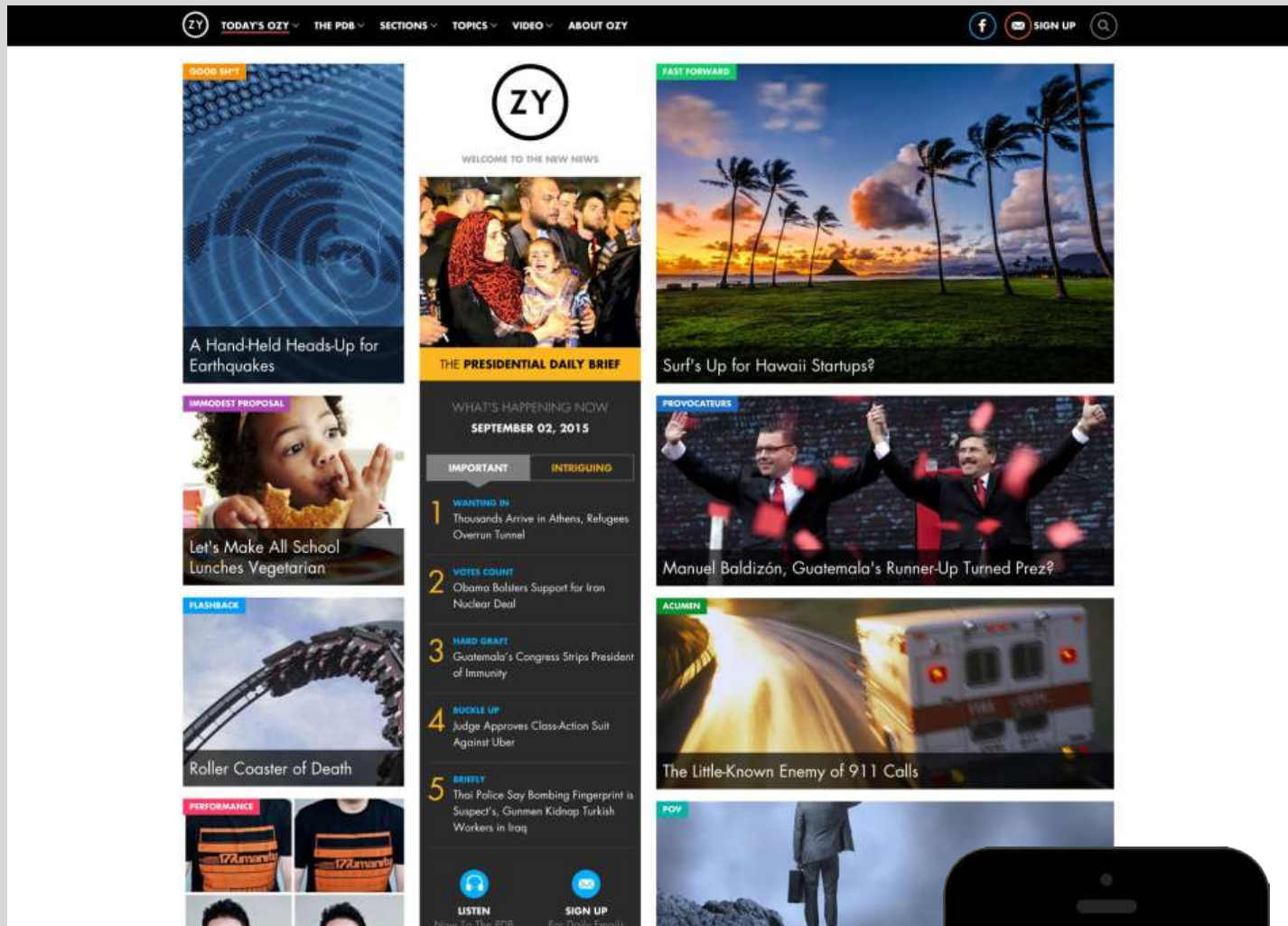
Put that in your responsive pipe and smoke it!

The website is stunning in its visual simplicity, providing enough white space to allow each product to shine. Although it is very image-heavy, the first paint is a passable three seconds.

The site uses an implementation of the `picture` element and `srcset` to target the `x` descriptor only, with Picturefill.js to catch any older browsers. SVG is key when it comes to simple, crisp iconography on any responsive site. Here, Grunticon is employed as a fallback to ensure everyone gets a similar experience.

"Dang. O'Neill's redesigned (and responsive!) storefront is looking SHARP"

ETHAN MARCOTTE (@RWD)



★ LESS, RWD, LAZY LOAD

OZY.COM

OZY ozy.com

➤ OZY is an example of how to execute a great responsive experience for a news site. The mobile-first approach means the site loads the mobile version of the images to begin with, and then if the user's device benefits from a larger image, this is loaded using `data-src` attributes.

The reading experience is great: there are three well-constructed grids that span across seven different breakpoints, to ensure the content is always the focus as you move between devices.

One of my favourite features is the 'Most Read' section on the homepage. Here, all the HTML content is loaded and ready to be

read, but the images are lazy loaded. This saves a ton of bandwidth and ensures the content is immediately available.

OZY also implements an infinite scroll to enhance the reading experience. Moving from article to article on the mobile is seamless, but when the scrolling would have a negative effect on performance (like with iOS7 or older IE versions), this is disabled and recommended articles remain as standard links.

The simple touches of colour are just one of the subtle design decisions that help make this one of my favourite sources of content. [n](#)



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SHOWCASE

Sublime design
& creative advice

THIS MONTH FEATURING...



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Help users remember important information by making it the first or last thing they see, suggests **Gene Crawford**



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Web designer **Yesenia Perez-Cruz** chats about standing out at design school and keeping cool when working with big-name clients



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Parallax scrolling and a dramatic soundscape helped **Spring/Summer** announce a new headphone collaboration in style

DESIGN CHALLENGE

This month...

DATING SITES

* PROFILES



PURDI GIBSON

Purdi is creative director of digital product design studio Nova
w: wearenova.co.uk **t:** @wearenovauk



MICHAEL CATTELL

Michael is a freelance digital designer and frontend developer with a taste for coffee
w: michaelcattell.com **t:** @mikeycattell

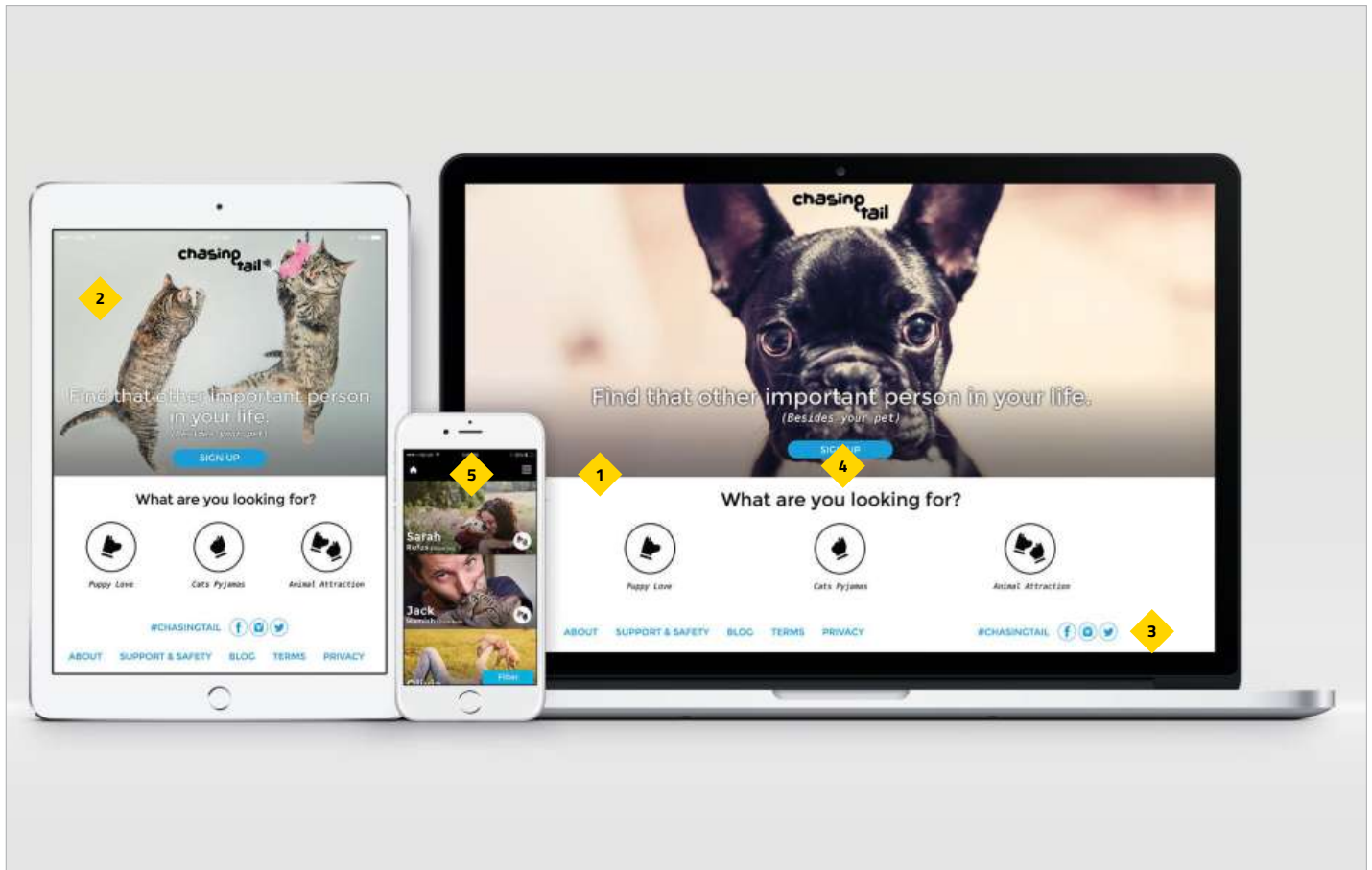


JAMIE HOYLE

Jamie is a student frontend developer currently building apps at Karambyte
w: hoyle.io **t:** @mightyshakerjnr

BRIEF

This month we'd like you to design a dating website. Recent years have seen a boom in online dating, so your design needs to stand out in a very saturated industry. Make it specific and focus heavily on user experience – you'll need to keep people coming back.



★ PURDI GIBSON

CHASING TAIL

Whether you're looking for love or just on the prowl, this site puts your furry friend first

➤ “Are you a dog or a cat person?” A deal-breaker of a question when asked early on in a relationship. As a dog owner, I wanted to create this platform to meet like-minded people who already have an important individual in their life: their pet. If you're looking for a relationship or simply on the prowl, Chasing Tail is an alternative dating site, where the initial focus is on your pet.

Skilful, well considered UX, combined with a simple user interface allows the site to be fully responsive, eliminating the need for separate desktop and mobile journeys. This mobile/desktop approach to development opens up options for interaction on mobile (think Tinder), but I wanted to avoid pressuring users into making instant decisions.

Security is ensured through an SSL-protected load balancer, with sensitive information stored in a database accessible via the application servers only.

Q CLOSE UP

(1) Symbolic icons representing user preferences and actions plus minimal user information ensure a clean UI. (2) Unconventional images give the brand a playful voice and personality, and set the tone for a digital marketing and social media campaign before and during launch. (3) The user can sign up with Facebook or email. Integrating an Instagram account would also be a great way to import quality imagery. (4) On first land it is clear what the site is asking of the user: Are you a dog or a cat person? Whether you have a pet or not, this simple starter should get people searching and using the site within seconds. (5) In the search results the pictures speak for themselves. Information provided shows the name of the person, with a pet's name as a secondary item. Simple icons indicate if they are a dog or a cat person, and an obvious 'Filter' button helps the user take the next step without distracting from the imagery.

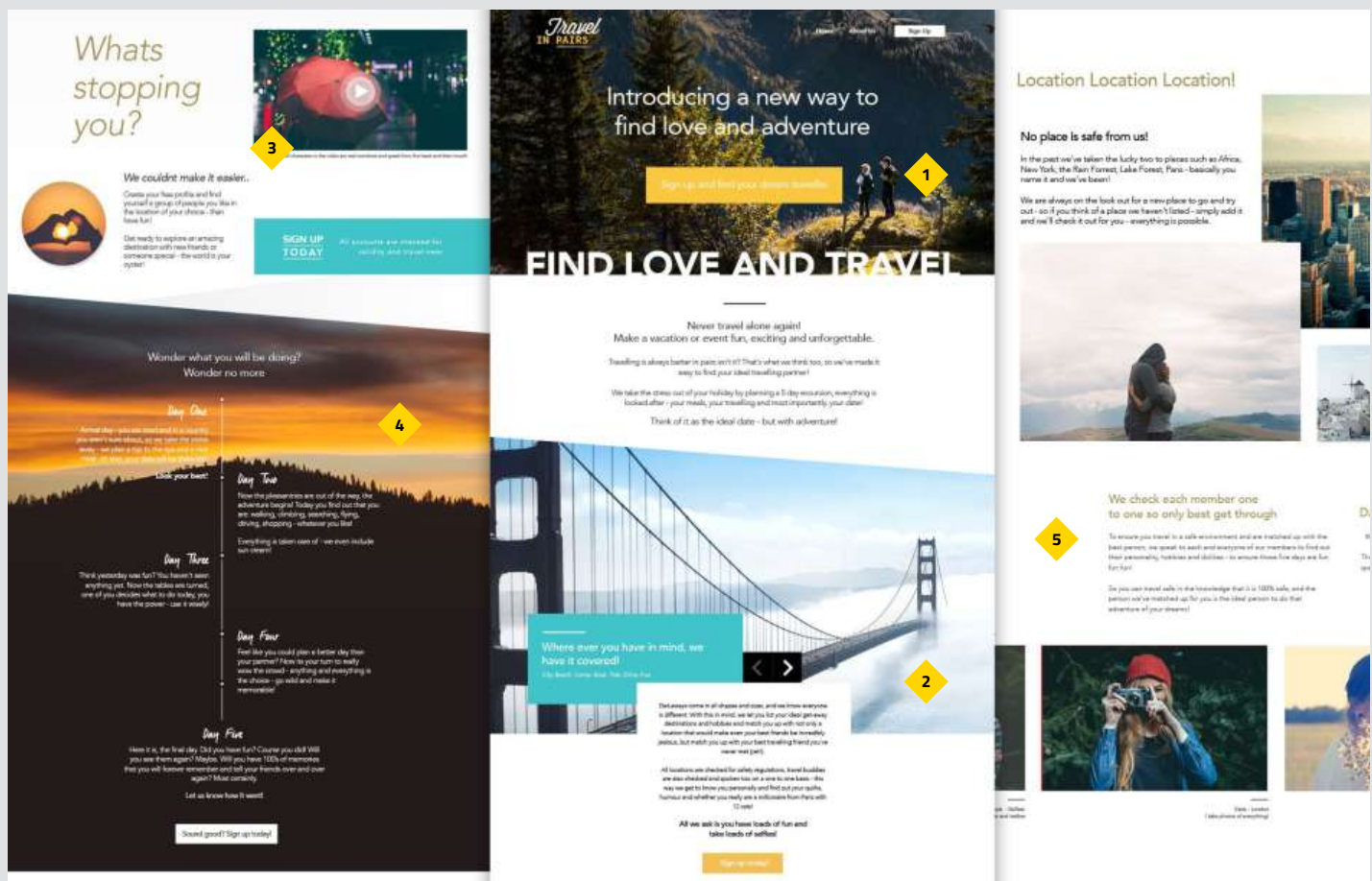
MY MONTH

What have you been doing this month?
I finished designing the new North Wales Fire and Rescue Service site, and took time to draw and paint. A lot.

Which sites have you visited for inspiration?
I visit the-dots.co.uk for inspiration, and to connect with amazing creatives.

What have you been watching?
A bit slow off the mark, but I've just started *Orange is the New Black*.

What have you been listening to?
A lot of house, especially Julio Bashmore. The constant funky beat helps me concentrate.



* MICHAEL CATTELL

MY MONTH

What have you been doing this month?
Relaunching my website and styling Magento websites.

Which sites have you visited for inspiration?
typewolf.com – it's a gorgeous collection of lovely type. As I have just found out I'm going to be a father, a lot of baby websites!

What have you been watching?
Grand Designs. I dream of building my own house.

What have you been listening to?
Since returning from living in America I've not stopped listening to The Weeknd on repeat.

TRAVEL IN PAIRS

A site that puts the adventure back into dating by matching users with a shared love of travel

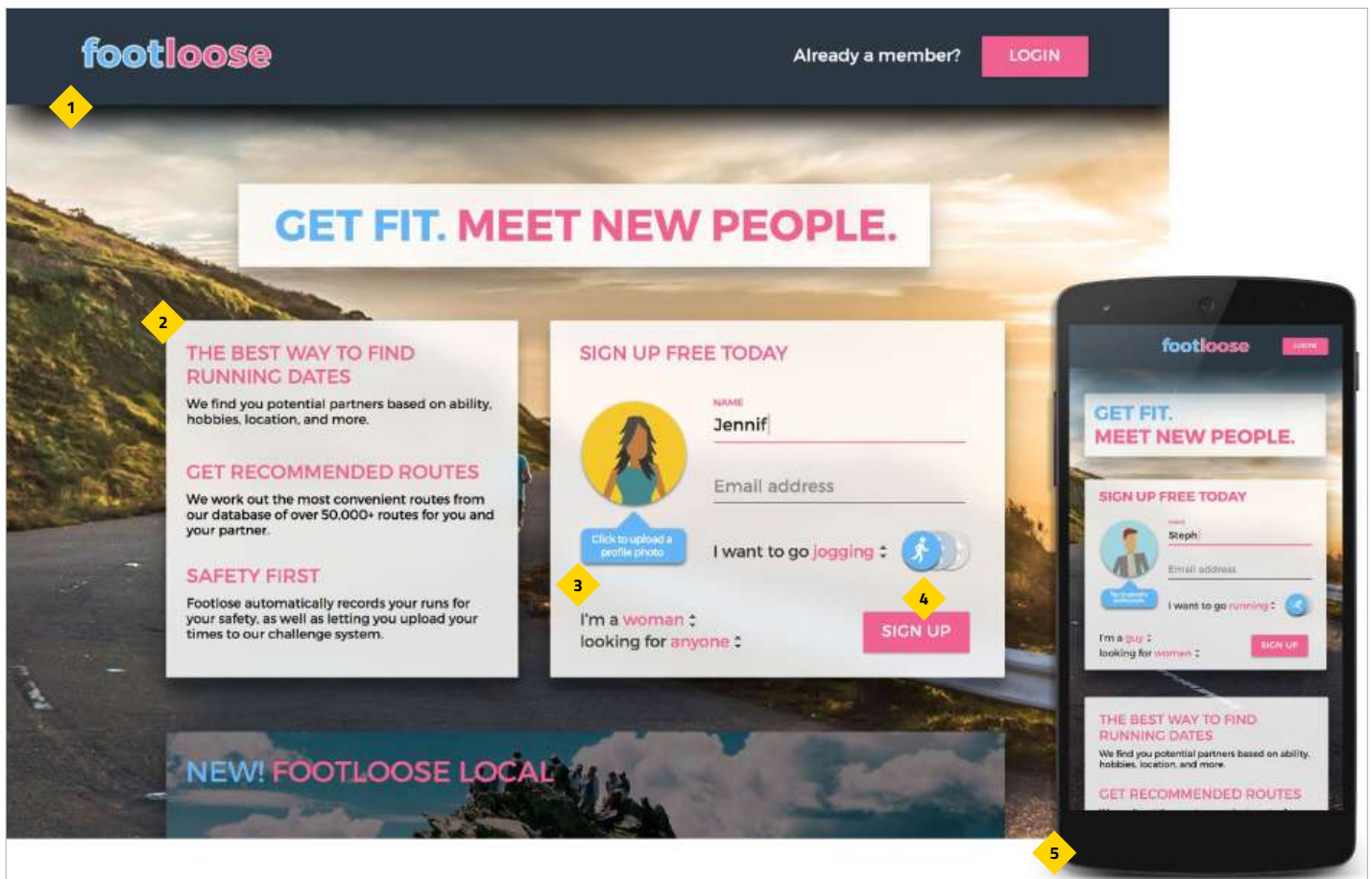
Dating is dull, isn't it? Not to mention awkward. I wanted to create something different, something for a more niche market. The idea was to remove awkwardness and add fun (fun is good) by aiming at folks who have a shared love of travel or adventure.

The site will be monitored by the users via a simple 'flag' system. Due to the nature of the date, each applicant will need to be authorised. Authorisation will include a screening process of (at a minimum) a thorough interview.

This matchmaking website has a strong social element once you are logged in. I've gone for a minimal website layout, with a 'less is more' approach. This aim is to get the user signed in and active straight away. It provides a friendly and fun atmosphere in which love can blossom – or at the least you can share tips on where to go on holiday!

CLOSE UP

(1) A powerful <h1> combined with a striking hero image ensure users know what the deal is from the outset: it's a dating website linked to travelling. There's a big call to action that grabs the attention of the user to get that click (not parallax!). (2) The carousel uses powerful images to really get the imagination going. Information is provided in short bursts to enable the user to absorb as much as they can, quickly. (3) When it's scrolled into the viewpoint, the video starts playing (although it's muted until clicked/hovered over). This showcases locations along with comments from past couples to reassure users of the service's trustworthiness. (4) A timeline showcases the itinerary of the get-away. This helps put potential daters at ease, as everything is taken care of and scheduled. (5) A very simple last-ditch attempt to get that sign up – strong imagery of past locations and a carousel showing current users, picked at random.



* JAMIE HOYLE

FOOTLOOSE

Tackle your fitness regime and your love life in one go with this running date app

➤ Running dates are becoming increasingly popular, with more and more people taking to the streets in search of happiness. Footloose is designed with this in mind: it connects single walkers, joggers and runners of similar ability in the same area, and suggests the best routes for them to follow.

The site is designed mobile-first, and I've used the brief as an experiment in Google's Material Design spec. I've designed the typography to make the site as accessible as possible, with CSS animations and hover states used for animating text fields and subtly highlighting active UI elements.

All icons are SVGs, to ensure everything looks crystal-clear on high-res displays. On desktop browsers, the gaussian-blurred card backgrounds are created using CSS3's filter property, while on mobile devices this falls back to simple transparency.

Q CLOSE UP

(1) The design uses drop shadows to highlight different layers and create an illusion of depth. This extends from containers to individual elements like the activity type indicators. (2) The card layout offers a familiar UI paradigm for users, while ensuring elements display well on desktop. Titles, background opacity and styling are all retained across desktop and mobile cards. (3) The profile picture field is linked with Gravatar to automatically pull an avatar for a user based on their email address. If the user doesn't have one linked, Footloose uses the new File API to handle file uploads – cropping, previewing, and eventually uploading the new profile picture. (4) Subtle animation of the activity icons provides a visual representation of the activity selected. (5) On mobile, the entire design collapses downwards so each card takes up the full width, with the sign-up form prioritised.

MY MONTH

What have you been doing this month? Laying down the groundwork for a new trip app we're making at Karambyte.

Which sites have you visited for inspiration? materialup.com and siteinspire.com.

What have you been watching? The new series of *BoJack Horseman*, and the blissful return of the football league season.

What have you been listening to? Muse's new album *Drones*, Public Service Broadcasting, and whatever Apple Music decides I should listen to this week.

**NEXT
MONTH**

CREATE PERFECT LAYOUTS

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★ FOCUS ON

SERIAL POSITION EFFECT

Put the emphasis on the first and last things a user sees in order to secure them in their memory, suggests **Gene Crawford**

> As designers, we all notice and study patterns. We learn to adopt visual patterns for our layouts that work well to solve problems for our clients. I'd like to give some attention to one great concept that leads us to a very useful pattern: the serial position effect.

This is the idea that people have a tendency to pay more attention to the first and last items in a series. At its core this relates to people's long-term memory use. The first and last items in a series are easy to remember because we are able to devote a greater amount of our brain's processing power toward them.

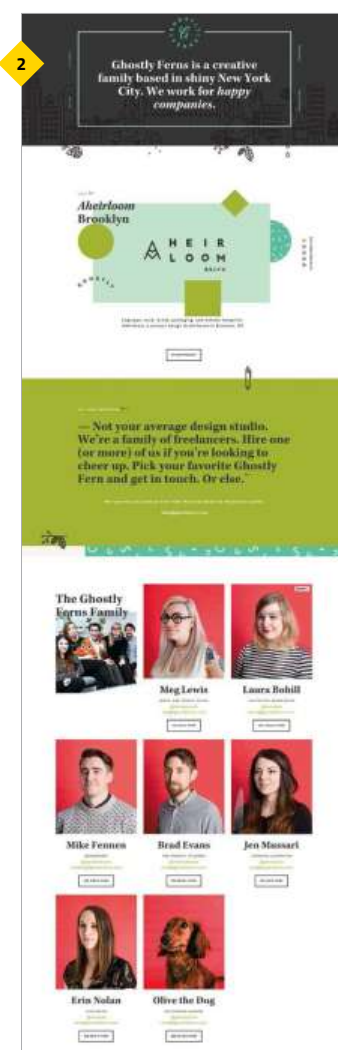
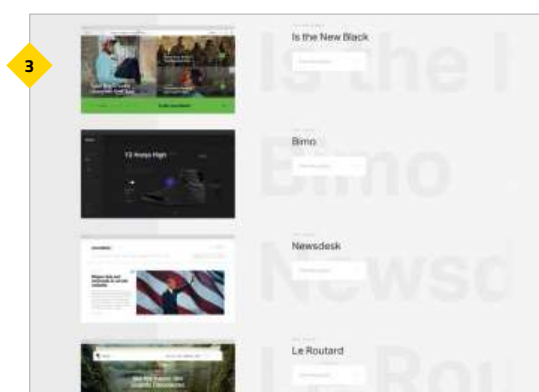
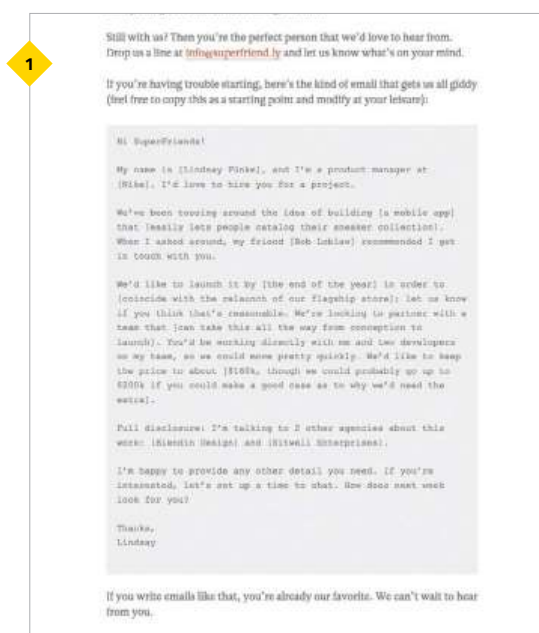
This concept of serial position effect and recall can manifest itself visually when you use a list. If you've ever seen a presentation where the speaker used a slide with a dozen bullet points on it, you can never recall all the items on that slide once the talk is over. A better solution would be to use one bullet point per slide. Similarly, if you design a very long scrolling website, the very top and the area near the bottom will be recalled most easily once a person has finished visiting your site.

Using spacing and rhythm to slow down the viewer will help secure content in their long-term memory. This concept is also used a lot in email marketing – chances are you'll remember a 'P.S.' note from an email.

Keep the concept of serial position effect in mind and use it strategically the next time you are working on a layout or organising content visually. **■**



Gene's mission is to work tirelessly to provide inspiration and insight for developers. His recent projects include *unmatchedstyle.com*



(1) The website for SuperFriendly (*superfriendly.ly*) takes this concept to its core and delivers visually different sections as you scroll down the

page. It also saves the best part for last. (2) The design company Ghostly Ferns (*ghostlyferns.com*) takes this concept into account by keeping things

visually varied as users scroll down its site. It puts some emphasis on the top and bottom sections. (3) Long scrolling pages where the content

visually looks similar – like on the portfolio website for Peirre Georges (*nerval.ch*) – can be hard to remember once you've gone elsewhere.



INFO

Location: Philadelphia, USA

Designing since: 2009

Areas of expertise: Design, UX, typography, performance

Selected clients: MTV, Harvard University, Zappos, Papa John's

Awards: Best Celebrity/Fan Site website 2012 Webby Awards, Designer of the Year 2014 Rad Girl Awards



*PROFILE

YESENIA PEREZ-CRUZ

yeseniaperezcruz.com

The Puerto Rican web designer
on keeping cool and learning
from the greats

> Yesenia Perez-Cruz had something of a dream start in the web industry. Having caught the eye of Chris Cashdollar at a design class, she landed her first full-time job at Happy Cog, where she cut her teeth working with the likes of Jeffrey Zeldman and Ethan Marcotte. Since, she's become a regular on the speaker circuit, and is now senior product designer at Vox Media. We chatted to the Puerto Rica-born, New Jersey-raised creative about the rise of 'perceived performance', unusual methods of keeping creative and how to stay cool when working with big-name clients.

net: How did you get into design?

YP: I was a quiet kid growing up. I moved from Puerto Rico to New Jersey when I was five, and the culture and language barriers made me a bit of a loner. I spent a lot of time reading, writing and drawing. Around age 14, my family got a computer and 56k modem. I loved creating fan art, and in the early 2000s I was running a Christina Aguilera fan site and making graphics for my Myspace and LiveJournal. All of this naturally led to me pursuing graphic design in college.

net: Were you inspired by anyone growing up that pushed you in this particular direction?

YP: One of my elective classes in high school was graphic design. It was taught by Richmond Garrick, a talented painter from Sierra Leone. I fell in love with graphic design in that class and even though I was already applying to colleges for journalism, I changed my mind and decided



MTV O Music Awards With Happy Cog, Perez-Cruz worked on the websites for MTV's O Music Awards – an online music festival and awards show



► to major in graphic design. Mr Garrick helped me photograph my work and put together a portfolio that I sent to Drexel University.

net: You got your job at Happy Cog after taking a class taught by then-creative director Chris Cashdollar. What did you do to make yourself stand out?

YP: I think I stood out because, although my portfolio was mainly print pieces,

I had a strong understanding of design principles and diverse work. I'd also spent a year and a half interning at a user experience agency which rounded out my print-heavy education.

Despite all that, I had a lot to learn in terms of designing for the web. You need to constantly think of how to guide a user through various pathways. That was something that was difficult for me to grasp at first. I was used to thinking

in terms of individual pages, and had to learn to design systems.

net: You were at Happy Cog for five years. What did your time there teach you?

YP: I learned everything from how to keep my Photoshop files neat to how to present work and lead a project. Aside from that, I learned that one of the best aspects of this industry is how we all share information and push ourselves to be better.

Working with people like Jeffrey Zeldman and Ethan Marcotte who have had such a profound influence on this industry was incredibly inspiring. From Jeffrey, I learned that the best thing any web designer or developer can do is learn to write and speak. While it's always scary for me to get up on a stage and talk about my work, putting my thoughts and process into words has been instrumental in my growth as a designer.

net: While you were at Happy Cog you worked with MTV on three O Music Awards sites. Tell us a bit about that ...

YP: They're some of my favourite projects because the MTV design team and the Happy Cog design team were so closely



integrated. Since the websites supported a live show, at the beginning of the projects the MTV team would tell us what the theme of the show would be. Then the MTV and Happy Cog design teams worked on moodboards to see how that theme could come to life on the web.

Because we were so close, once we had a general design direction, the MTV team could work with their video and set design team to make sure that the direction of the set design and motion graphics matched the website. It was always really exciting to me to have the web design lead motion graphics and set design.

net: How do you stay creative working with briefs from big-name clients?

YP: Sometimes working for big clients can be nerve-racking. There can be a lot of pressure to create amazing work that will please everyone on the client team as well as impressing your peers. If I'm too worried about creating something brilliant, I'll end up creating something safe and boring. If I find that I'm designing in fear, I need to stop immediately.

Something that helps me is to get all the ugly out of my system by sketching and experimenting. I have to remind myself that I love designing, and the best results will come out of having fun. If I'm working with another designer, we may trade comps halfway through. It's awesome to see where a design can go when someone with a fresh set of eyes works on it.

net: You're now working as a product designer for Vox Media – have you had to alter your working methods at all?

YP: I haven't had to change much of how I work. Design principles are the same no matter who you're working for. I've found that on a product team we can design smaller components and move them into a testing environment quicker, and continue to tweak and iterate.

In client work, I'd often only have one shot to design a solution, so there was much less continual iteration and improvement. Timelines in client services work also tended to be longer

because there were more sets of stakeholders that needed to review and approve the work.

net: You're a part of Girl Develop It. Why are initiatives such as this important?

YP: Girl Develop It is fantastic. I've met lots of women that have started their careers in tech after taking a few classes. The classes are fairly small, so it's easy to ask questions and get one-on-one attention. It's important for women to feel like they're comfortable and able to ask questions in a learning environment.

net: How can the web industry become more inclusive?

YP: The industry has a lot of work to do. Beyond recruiting and hiring minorities, we need to find ways to keep them here. This means we need to accept and value diverse opinions. We need to be mindful of biases we may have. We need to make sure that when we hire minorities, we have proper mentoring and support systems in place for them.

net: You've said you don't necessarily need to know code to work technically. Could you expand?

YP: When I say you don't need to code to be a web designer, I mean you don't need to ship production-ready code at your company. It's important for all designers to understand how developers think and how a developer would build your design.

Frontend and even backend development classes can be really valuable for designers. I also think typography and design fundamentals are important for developers to know. A team full of specialists with a diverse pool of knowledge that communicate constantly is really the ideal.

net: How have performance demands changed over the years?

YP: Websites grow increasingly slow and bloated every year. Thanks to some folks fighting to raise awareness of performance issues, I think the industry is becoming more conscious of what a huge problem these slow, heavy sites are. We still have a lot of work to do to



* OFFICE CULTURE



YESENIA PEREZ-CRUZ

What's on your desktop?

Sketchbook, La Colombe coffee, and a new planner from *ban.do*.

What little things make your life worthwhile?

Sites: The Toast, Instacart, YouTube

Apps: Instagram, Slack, Fitbit

Reading: *Between the World and Me* by Ta-Nehisi Coates

Audio: Father John Misty, Leon Bridges, StartUp podcast

What do you have on the walls?

A print from illustrator Kyler Martz.

What will you do for lunch?

I've been making lunch at home. I'm working my way through Yotam Ottolenghi's *Jerusalem: A Cookbook*.

What hours do you work?

Usually 10am-6pm. Sometimes earlier, sometimes later.

What else do you do in the office?

I work from home, so there's a lot of talking to my cats.

How often do you hang out with other designers?

I try to work out of the Vox offices at least once a month.

Describe your working culture in three words ...

Coffee, Slack, music.



★TIMELINE

A look at the key dates in Perez-Cruz's career

JUNE 2009

Graduates from Drexel University. Becomes a designer at Happy Cog

MAY 2010

Attends first An Event Apart

JULY 2010

Works on new design direction for Zappos.com

MAY 2012

Work with MTV wins at the Webby Awards

JANUARY 2013

Teaches first typography workshop with Girl Develop It Philadelphia

JUNE 2014

Joins Intuitive Company as a UX designer

SEPTEMBER 2014

Debuts talk on performance and design at Smashing Conference in Germany

FEBRUARY 2015

Speaks at first An Event Apart

MARCH 2015

Takes the world's longest commercial flight to speak in Sydney, Australia

JUNE 2015

Joins Vox Media as senior product designer



Jose Garces For this site, Perez-Cruz tried to capture the richness and vibrancy of the restaurant

- ▶ make sure our content is as accessible as possible.

Recently, we've been focusing more on perceived performance, which means we're worrying more about *how* we load assets instead of what we load. This means that we can deliver a usable portion of a site very quickly, even if the site is asset-heavy as a whole. Advertising continues to be an issue when it comes to performance, as ads can block the rendering of content on a page. I think reforming how ads are served to users should be something we as an industry tackle next.

net: How do you find the balance between consistency and variety?


YP: Constraints are really good for designers. I talk about finding a balance between consistency and variety often, and I think that's the key to being creative yet responsible. I use business and user goals as a way to prioritise aspects of a design. For instance, if the client wants to show off beautiful, high resolution photography, I'll build my design strategy around that. I may keep typography and other design elements more simple to allow the photography to be the star. This allows me to think of creative ways for users to interact with


the photos while also prioritising – which is key to designing for performance.

net: Your design for chef Jose Garces' restaurant is beautifully bold (netm.ag/garces-273). What inspired you here?

YP: Luckily for me, the inspiration for that project came from the food and interior décor of the restaurants. I got to eat delicious food and take in the lively atmosphere as research.

Capturing the richness and vibrancy of the restaurants was challenging. Often, restaurant sites are too literal, with music playing and large background images. For the Garces sites, we put the user experience first. The goal of the redesign was to get people to book more tables through the site. From there, I choose design elements that would support this goal – that's why the 'Book a Table' bar is the most embellished part of the design.

This design was really all about doing more with less. My initial comps had much more design detail and I kept taking more and more elements away and letting the beautiful photography speak for itself. 

 **Next month:** Brooklyn-based designers Anton & Irene



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[†] World Forest Resources, 1953 and UN FAO Global Forest Resources Assessment, 2010

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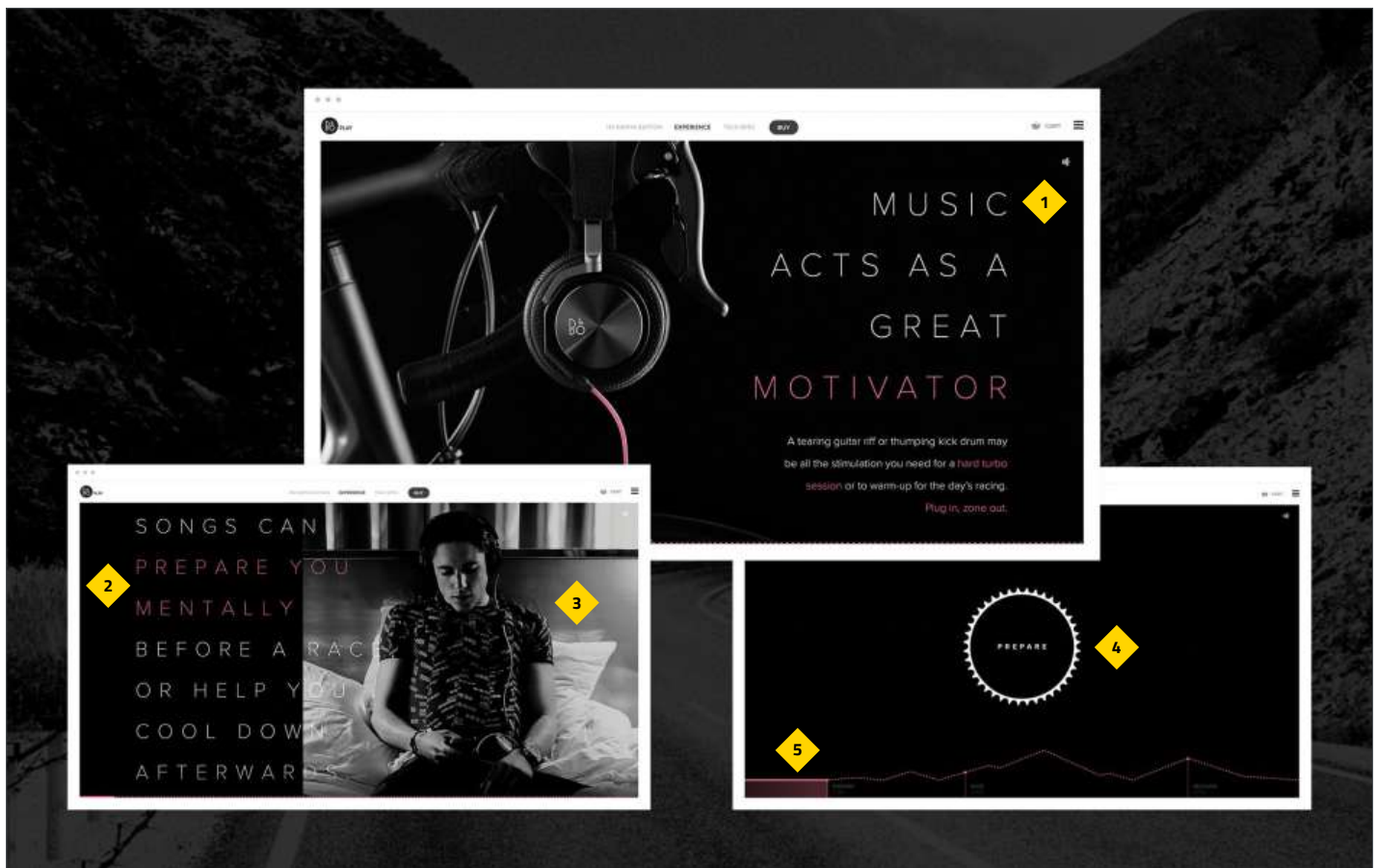
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The **environmental**
facts may
surprise you



* HOW WE BUILT

B&O PLAY RAPHA EDITION

Spring/Summer brought together an emotive soundscape, powerful imagery and parallax scrolling to announce a headphone collaboration



BRIEF

When B&O Play teamed up with Rapha to make a special edition of its H6 headphones, Copenhagen-based digital agency Spring/Summer was asked to tell the story via a compelling microsite on B&O Play's web platform.

Q CLOSE UP

(1) The soundscape plays an important role. It helps underpin the three parts of the story – prepare, race and recover – with the unique sounds that you associate with road race cycling. (2) Key words and sentences fade from white to pink as you scroll through the experience to help highlight parts of the story. (3) To make the experience engaging and immersive, Spring/Summer created an interactive storytelling format

with a mix of media, tied together with a parallax scrolling effect. (4) An animated cog appears and transitions into a simple circle with a section label inside to introduce and separate sections in the story. (5) A timeline in the shape of a profile from a road cycling race helps orientate the user, and provides an alternative way to navigate. This moves into the screen when the story begins, and then reappears at key points.

ROBERT THOMSEN



Robert is creative director at Spring/Summer. He led the concept for the project
w: robertthomsen.com
t: @robertthomsen

HENRIK DAHLQVIST



Henrik is an art director at Spring/Summer and was lead designer for the site
w: henrikdahlqvist.com
t: @henrikdahlqvist

ROBIN ISAKSSON



Robin is a frontend developer at Spring/Summer and led the site's development
w: springsummer.dk
t: @robisak

> Danish audio brand B&O Play collaborated with British cycling brand Rapha to create the H6 Rapha Edition headphones. To launch the product, web agency Spring/Summer was tasked with creating a story that could primarily live on B&O Play's web platform as a microsite (netm.ag/H6-273), but would also be used in consumer touchpoints ranging from social media to the B&O Play blog. The final experience uses sound and imagery to take the user through three phases of cycling: prepare, ride and recover.

net: How did you start the project?

RT: After the first meeting with B&O Play it became clear that timing was going to be a challenge: we only had a couple of weeks to define the concept and design, and get sign-off from B&O Play and Rapha. Our top priority was for everyone to get on board with the overall concept. The solution was going to live on B&O Play's platform, so we also needed to make sure it could work on their CMS.

net: What sort of experience did you want to create?

RT: We wanted to really underpin the connection between sound and cycling; in particular the effect of music during preparation, turbo sessions and recovery, but also the distinctive sounds you associate with road race cycling. This connection formed the basis of the experience, with a narrative of three chapters: prepare, ride and recover.

net: How did you create the soundscape?

RT: We wanted to underpin the three parts of the story with unique sounds. It was important the soundscape felt connected and fluid, but was also dynamic enough to follow the user's personal pace through the story.

To accommodate this we built the soundscape in several layers that are triggered based on where the user is in the experience. Some sounds are more consistent and intensify through the experience, while others are introduced at key points in the story and fade away again.

net: What does the parallax scrolling effect contribute?

RT: The backbone of the experience is the story, but it was vital to tell it in an entertaining way that would keep the audience engaged. To accomplish this, we created an interactive storytelling format with a mix of media, tied together with a parallax scroll.

net: How did you achieve the effect?

RT: First we defined a dynamic layout that could connect and trigger various elements in an interesting and surprising way. We created a simple grid in Photoshop and outlined the placement and sizes of the elements, and roughly how they would behave, before moving into an HTML prototype to test how it would feel. We spent a lot of time moving back and forth between Photoshop, After Effects and HTML to get the right feeling and timing.



★ TIMELINE

Key stages in the microsite project

MID MARCH 2015

B&O Play briefs Spring/Summer on the project



LATE MARCH 2015

Initial concept for the experience is described in simple text format and shared with the client



EARLY APRIL 2015

The experience is sketched out and wireframes are shared with B&O Play and Rapha



MID APRIL 2015

Design starts up and first round is presented to the client



LATE APRIL 2015

A detailed design of the entire experience is produced, as well as animation references for frontend. All product images are captured on a one-day shoot



EARLY MAY 2015

Sound design begins and the first test site in HTML is shared with the client



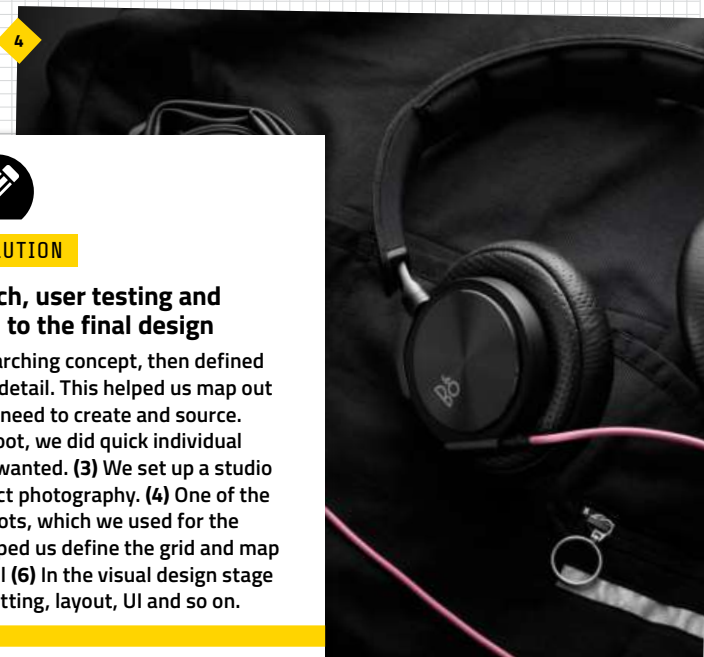
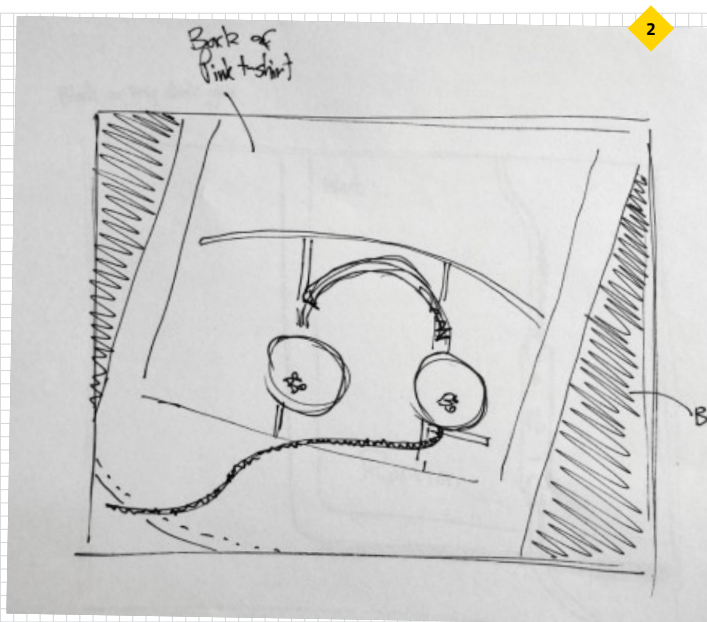
MID MAY 2015

Final tweaks are made to the experience and QA starts



LATE MAY 2015

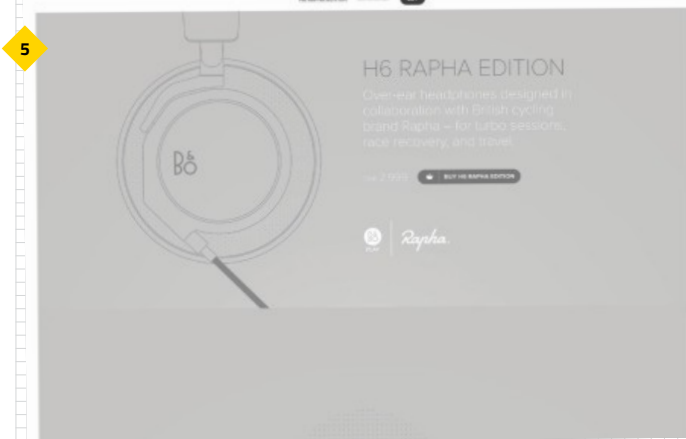
The site is launched to coincide with the release of the Rapha H6 headphones



* EVOLUTION

A look at the research, user testing and prototypes that led to the final design

- (1) We sketched out the overarching concept, then defined the content elements in more detail. This helped us map out the exact assets we would need to create and source.
- (2) To plan for the photoshoot, we did quick individual sketches of all the photos we wanted.
- (3) We set up a studio shoot to capture all the product photography.
- (4) One of the final retouched product shots, which we used for the experience.
- (5) Wireframes helped us define the grid and map everything out in greater detail.
- (6) In the visual design stage we defined colours, typesetting, layout, UI and so on.



► **net: What's the role of the timeline?**

RT: This helps orientate the user and gives an alternative way to navigate. It moves onto the screen when the story begins, and reappears at key points to show where you are. To prevent the timeline disrupting the story, we decided to have two states: one fully open that you can see on rollover and when you scroll down to a new section; another that's more subtle, providing a visual indication of where you are.

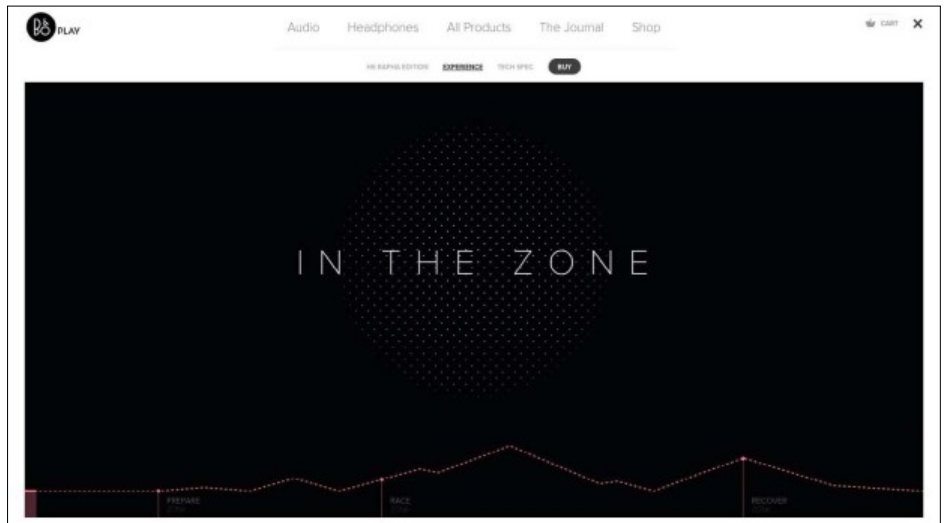
net: What were your design concerns?

HD: It's always important to build in little details that can help drive the experience and surprise the user enough that they will want to go through the full story. For example, in the opening section we use a dotted background that transitions into a circle with a headline, which acts as a sort of introduction to the story. The circle and dots symbolise the speakers in the headphones and also the idea of going 'into the zone'.

We also wanted to define the different sections in the story, so we evolved the circle from the introduction into a section breaker. An animated cog appears and transitions into a simple circle with a section label inside.

net: What were the biggest challenges?

RI: It's crucial to start projects in a good way: the structure of the code and your thinking around it will follow



Design touches Linking features such as the recurring motif of the circle help connect the story and guide users through to the end of the experience

you throughout the project. This experience relies a lot on the timing of the elements that make up the story, so we moved away from a static design process into more of a parallel workflow, with prototyping and motion tests. We would constantly sit down and evaluate the timing: is this appearing too early, too late, and so on.

net: How did you test your design?

RI: Prototyping is an important step and we started coding the same day we kicked off the design. Development stayed in line with new design ideas.

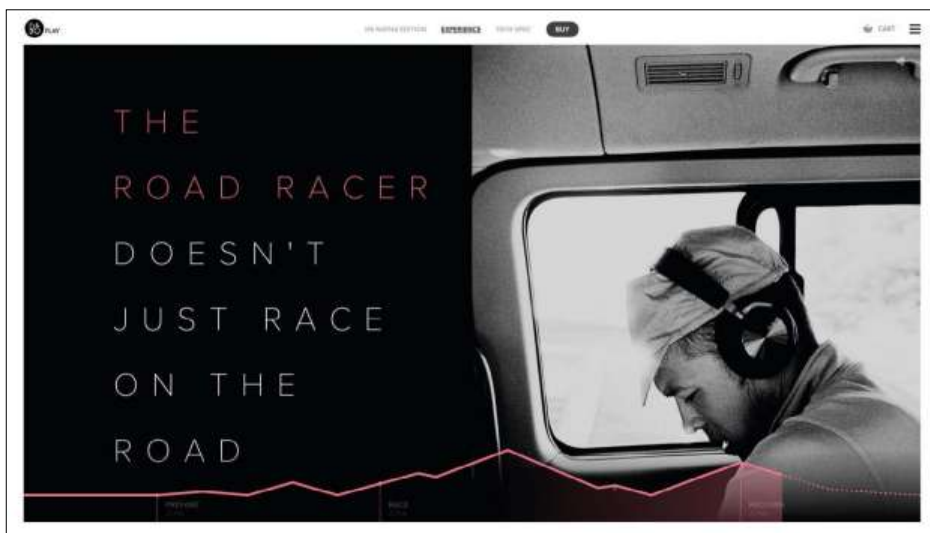
We tested a fair few sound effects before we landed on the right solution. One idea that we tried out was a bike chain sound that linked playback speed with scroll speed. It was interesting and fun, but ultimately we dropped it because it was too domineering.

net: What was the biggest lesson you learned on this project?

RI: We kept experimenting with how best to use sound throughout. Of course you want to nail it straight away, but it doesn't always work out that way. This project taught us a lot about working with sound in a dynamic way, and we'll be a lot better equipped to work with sound in future projects now.

net: What advice would you give any studio facing a similar brief?

RT: It can be hard to get your head around all that factors that make a compelling interactive story experience – dynamic layout, time, transitions, mixed media and so on. So make sure you move from static design into prototyping as soon as possible. This helps you test the ideas you have in your head, and ensures they come together in the right way. ■



In the pink The experience is mostly black and white, but pink touches are used to highlight text and design elements – such as the distinctive timeline – as the user scrolls through

► **Next month:** Interactive Haiko, a collection of online experiences





FROM PHOTOSHOP TO SKETCH

There's a new kid on the design app block, and it's causing many Photoshop users to jump ship. Designer **Brian Hoff** explains why he made the switch to Sketch

AUTHOR

BRIAN HOFF

Brian is the founder and creative director of Brian Hoff Design, a Philadelphia-based boutique digital agency with a focus on web and mobile platforms and products brianhoffdesign.com

ILLUSTRATION

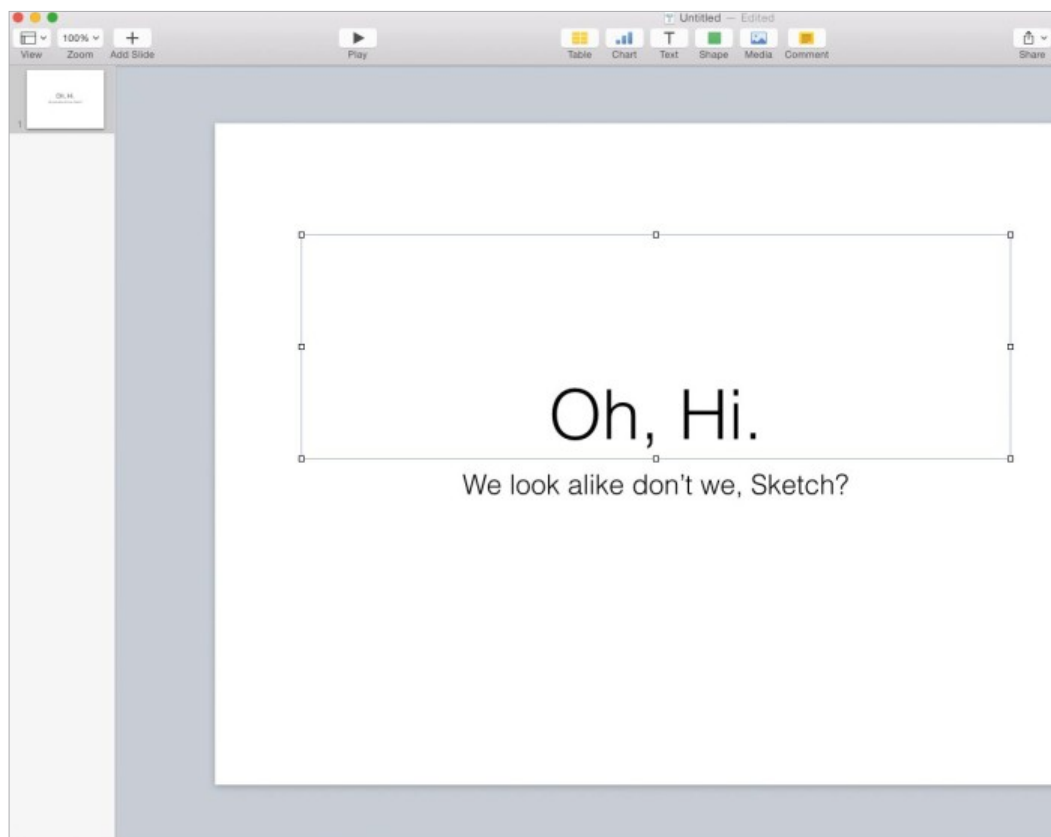
NEIL STEVENS

Neil is an illustrator, image-maker and graphic artist based in St Albans and London. He has worked for clients including the *Guardian*, The V&A and Paul Smith crayonfire.prosite.com

Over the past year or two, Bohemian Coding's Sketch app has gained momentum across the glorious internets as a 'better' alternative to Photoshop.

Most of this ample praise has come from the web and interface design community. If you're anything like me, then you're always on the lookout for new tools and better alternatives to an existing workflow. However, at first I was tentative about handing over my 20-year Photoshop baton.

For the most part, Photoshop does the trick and does it well enough. ►



Familiar faces Sketch was built exclusively for Mac. If you've ever used Apple's software, in particular Keynote, you'll notice a similarity in its UI

	PS	SKETCH
Fit to create scalable graphics	😊	😊
Fit for Photography & Graphic Design	😊	N/A
Fit for Web and User Interface work	😊	😊
Ease of use	😊	😊
Price point for user license	😐	😊
Project & Document Organization	😊	😊
Saving assets for the web	😊	😊
Software stability & bugginess	😊	😞
Available extensions & plugins	😊	😊

- 'Why switch?' I thought. Photoshop shortcuts are my second language. Performing a specific effect or task no longer required much brain power since I had likely already done something similar many times over. This old dog was thinking that Sketch was for the new-school cool kids.

As the chatter surrounding Sketch increased, my curiosity finally got the best of me. I needed to see for myself why Sketch had caught fire amongst my peers. As I was about to begin a new project, I decided the moment was right. If I was going to do it, I wanted to give it my all for a week. I closed down Photoshop, downloaded a 30-day trial of Sketch and took a dive into the deep end with no flotation device, hoping to keep my head above water long enough to figure out what the hype was all about. If you're thinking of exploring Sketch, I'd recommend this approach.

Within two to three days, I was convinced. Once again, I felt enthusiastic about opening up a piece of software,

Sketch's focus is specifically those that design websites, interfaces and icons. Compared to Photoshop, Sketch's menus look stripped down. A nice breath of fresh air

and I reaped the benefits instantly. I quickly felt comfortable learning the new interface. The overlap with Photoshop was just enough. I was in love. 'Yes!' I thought.

In this article, I'll be covering a few of Sketch's core features, and comparing them to their Photoshop equivalent. If you're on the fence, looking for a better (and much cheaper) alternative to Photoshop, or as curious about its increasing popularity, then read on.

HELLO, FRIEND

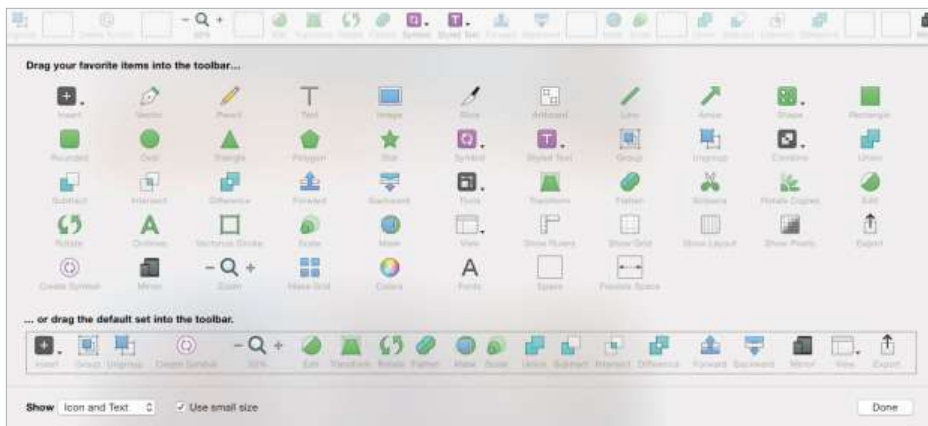
Sketch is exclusive to Mac OS X, and by the looks of Bohemian Coding's FAQ section, it's not even considering supporting Windows and Linux. This is good for us long-time Mac users.

If you're at all familiar with OS X's productivity apps (Pages, Keynote, Numbers) or have used any older, discontinued software by Apple (I'm looking at you iWeb), you'll instantly feel like you've run into an old friend that's grown a more mature beard.

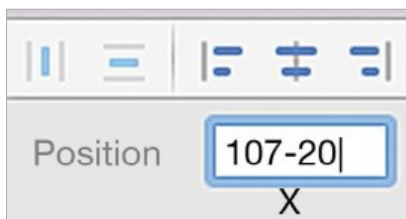
Much like I did in Keynote when I started using it, the first thing I did in Sketch was to customise the top toolbar. You do this by simply right-clicking on it and tossing as many items as possible onto it.

Keyboard shortcuts

The advice I received from numerous friends and Twitter folk was to learn the shortcuts as quickly as possible. However, the visual guidance of the tools along the



Keep it simple While Photoshop has a toolbar in view at all times, some of Sketch's tools are a bit tucked away at first



Maths minds Need to add an extra 20 pixels to that 180px button? Just type 180+20

toolbar helped me to better understand Sketch's capabilities and how it handles various tasks. Many of the tools will be semi-familiar from Photoshop, but they are now located in different places. In Sketch's case, a more unified area.

To help my transition from Photoshop, I brought over some frequently used keyboard shortcuts by creating custom keyboard shortcuts in OS X. If you're not familiar with this process, get ready to fall in love. It's quite easy to do right from your Mac's System Preferences. Also, here's a handy list of Sketch Shortcuts to get yourself familiar with: sketchshortcuts.com.

A FOCUS ON FOCUS

Don't get me wrong: Photoshop gets the website and UI mockup job done and does it well. It also does a ton of other stuff well, too. It sets out to be the tool for everyone. And you know what? That's OK. One issue, though, is that it lacks focus as an app for web and user interface design.

Sketch's focus is specifically those that design websites, interfaces and icons. Compared to Photoshop, Sketch's menus look stripped down. A nice breath of fresh air. No more fighting through the clutter that doesn't necessarily translate to the web. Sketch's tools and values lie in what translates easily to CSS and browsers in general.

For example: making and customising the layout settings (i.e. creating a grid). In Sketch, predefined fields enable you to customise your grid's total width, gutters, columns and rows. As someone who always works with responsive grids, I'm constantly in these settings before starting a new project.

Artboard presets

Another feature that showcases Sketch's emphasis on the web and UI is its preset templates and artboard presets. And for this I'm thankful.

Let's say you're starting a new iOS app project. You could either create a new project like you're used to in Photoshop, or select the 'iOS UI Design' template Sketch provides under **File > New From Template**. The advantage here is that Sketch first presents you with an iOS UI kit for quickly mocking up iPhone apps and dragging, say, the native iOS keyboard into your mockup.

Recently, I was mocking up a map view for a booking app I was working on. I didn't have to open up a separate file or hunt around for an iOS map mockup. Just toggled over to my Elements panel and copy and pasted.

DEVS AND SKETCH

Sketch is not only an amazing option for web designers, but also a huge timesaver for the developers in your life. My friend, developer Carlos Gavina, encouraged my switch to Sketch.

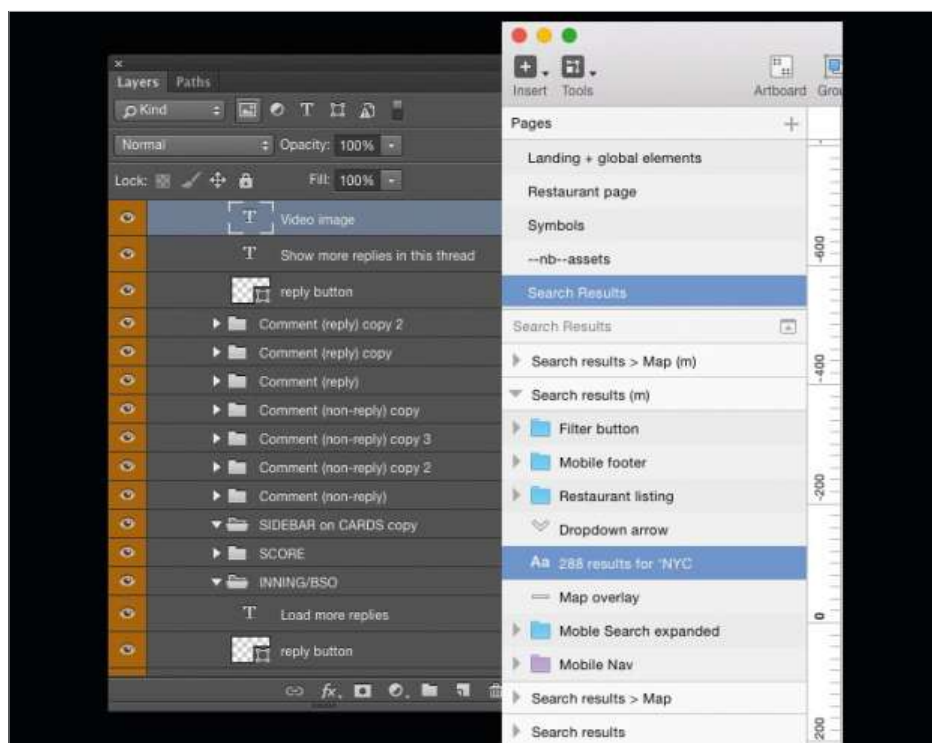
"It starts with everything being vector," says Gavina. "You don't have to work any harder for Retina assets or request new design files to support the new @50x resolution in town. I love being able to simply select the element and export the file type and resolution I need. No slicing required."

While both Sketch and Photoshop have slicing capabilities, rulers and guides for measuring elements and distances when converting mockups to HTML and CSS, Sketch gives you the option to ignore those workarounds. "The days of checking proportions between two elements using smart guides or calculating percentages with that old clickity calculator are no longer. It's built directly into Sketch."

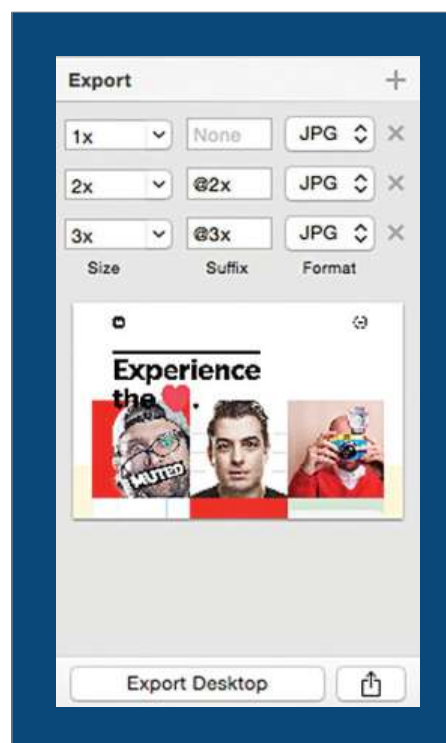
There's also a nifty plugin called Zeplin (zeplin.io) that takes design hand-off a step further. Zeplin exports code snippets and stores everything on the cloud. This way everyone has the latest guidelines: attributes like colour palettes, fonts and more. Your CSS file will thank you. "Sketch and its community are clearly focused on solving the problem of a better transition between design and development," Gavina smiles.

I asked Gavina about the first time he experienced Sketch. "I felt comfortable moving around the file, much like I do in Photoshop. In both apps, there's a similar hierarchy of layers."

However, he made an interesting observation. "Files tend to be more organised. Making a selection is much easier in Sketch." **cmd+Shift+click** is your friend. This can sound like a small thing, but being able to go through a file you did not create quickly makes your life easier and workflow faster.



Pages and docs While Sketch varies from Photoshop in that it stores all of its pages within one document, they both handle layering, grouping and organisation in a similar way



Export Exporting objects or artboards in Sketch is simple: select what you want, choose the sizes and name them

► SIZED TO PERFECTION

Just like Photoshop, Sketch's Inspector enables you to define exact sizes and positions on an artboard. Sketch, however, has an itty-bitty secret to its Size and Position Inspector. It understands maths! Not only addition, subtraction, multiplication and division, but also percentages.

Want to shift a button to the left 20 pixels? Just add '-20' to the field. Want an image to fill half the entire artboard? Just type '50%' into the width field. Brilliant!

ONE PROJECT, ONE FILE

With Photoshop, my project and file structure looked something like this:

BigTimeClient folder

- BigTimeClient_landing-page.psd
- BigTimeClient_about-page.psd
- BigTimeClient_contact-page.psd

Sketch handles things a bit differently. A single Sketch file houses all the pages and artboards within one document. At first I was concerned it would crush

my Mac's performance, however I've since designed iOS apps with roughly 30 screens and did not experience any significant performance issues.

The main benefit of this approach is that you can access and view all your screens side by side, so it's much easier to make changes and compare things. If you're mocking up various responsive breakpoints you'll absolutely love it.

A single Sketch file houses all the pages and artboards within one document. This means you can access and view all your screens side by side, so it's much easier to compare things

Recently, Photoshop introduced its version of multiple artboards. However, in Sketch it's possible to organise all the artboards into pages within one document, making this feature much more powerful. Otherwise, the multiple artboards in both applications function very similarly.

The layer palette in Sketch brought a level of comfort when I first opened

the app, since it mimics Photoshop in various ways. Much like Photoshop, this is where you view, rename, search for groups (folders) and elements across your project.

ONE FILE FITS ALL

In Photoshop, I'd typically create three (or more) file assets. One for @1x and another for @2x and yet another for

@3x. Saving those out separately was tedious. Unless you were working with vector objects and elements 100 per cent of the time, this became painful. Sketch has not even one rasterised tool or element in its app. Well, unless you drag one in, of course.

When creating an iOS app design project in Photoshop, I'd design at a much larger size on my screen and test



In the cloud Creative Cloud Libraries is a personal favourite of mine. Easily access, drag and drop objects or layers from one Photoshop document to another



Making an impact With its much lower price point and focus on UI and web design in particular, many web designers are choosing to switch from the trusty Photoshop in favour of Sketch

over a mirroring app, Skala Preview, on my iPhone.

With Sketch, my workflow when working with Retina devices and assets has changed and improved dramatically. I now design at the standard device size. Since everything is a vector by default in Sketch, I don't have to worry about making my artboard abnormally large on my desktop so I can preview the work over mirroring (now via Sketch Mirror). Working from desktop to mobile feels more natural now.

What's more, saving out various sizes of elements is as simple as clicking an export button, adding as many sizes and file formats as you'd like, and ... well, that's it. You can even drag and drop layers and groups to your desktop to save things out – although the Export button gives you more control. This is by far one of my favourite Sketch features, and one of the biggest time-savers as well.

FROM SMART TO SYMBOLIC

Photoshop's Smart Objects and Linked Smart Objects are extremely

handy and powerful. I used to use them often, especially when designing apps and interfaces that utilised a lot of repetitive elements.

If you're unfamiliar, here's a quick use case. You're designing a mobile breakpoints navigation and you're already 15 screens deep into the workflow when you realise something needs to change. If you weren't working with Linked Smart Objects you'd have to manually open every file and make your change in each one. With Linked Smart Objects, you can alter one element and all its counterparts will change automatically. Huge time-saver!

Creative Cloud Libraries

Another of my favourite features in Photoshop, which is also fairly new to the programme, is Creative Cloud Libraries. Simply drag commonly used assets to their own Libraries panel, for easy access when you want to drag and drop them onto other areas of the project. If you want to read about CC Libraries in more depth, go over to netm.ag/library-273.



AFFINITY PHOTO

Sketch is a great option, however it still leaves us Mac users in need of a 'photoshopping' app. Say hello to Affinity Photo (netm.ag/affinity-273). This offers professional photo editing for a fraction of the cost of Photoshop, with no subscription system.

Like Sketch, Affinity Photo is built exclusively for Mac, which gives us a more native feel. Retina UI, core graphics, force touch integration and OpenGL all bring a more tailored experience, while tools for enhancing, editing and retouching images provide a familiar feel to Photoshop's image editing capabilities. Darkroom favourites such as marquee, lasso, dodge and burn, blur, sharpen and more will make you feel right at home if you're already familiar with Photoshop.

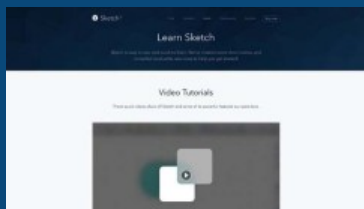
Affinity Photo prides itself on having a 'rock-solid foundation', which brings the highest levels of performance, stability and precision. Everything is applied live – no more previewing your effects then reopening to edit. Applying filters feels intuitive, especially in the case of blend modes (overlay, soft light and so on). Finally you can just thumb through the effects and watch them change instantly. Another awesome feature is the way Affinity handles selections and refinements. If you've ever tried to cut round someone's hair, you'll know what I mean.

If you're looking for a cheaper alternative to Photoshop for editing photos or creating custom graphics, I'd definitely suggest Affinity Photo. Like Sketch, its power lies in its focus on doing one thing and doing it well. It also has a sibling app, Affinity Designer, that bridges the gap between Sketch, Photoshop and Affinity Photo.

RESOURCES

Bohemian Coding website
bohemiancoding.com/sketch/learn

Bohemian Coding's website for Sketch has a nice little section on the basics of Sketch. I found this useful prior to downloading the app, as it meant I could better understand the differences and comparable features between Sketch and Photoshop.



Medium
medium.com/sketch-app/latest

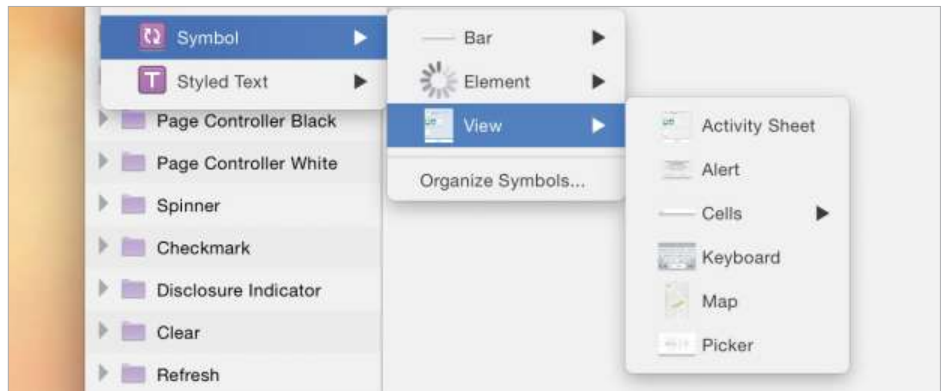
As a fan of Medium, following along with all the articles posted by a variety of people on the topic of Sketch is a great way to learn and stay up to date with new tricks and features. Here you'll find people posting on everything from 'organising Sketch for iOS' to 'what the heck to do with that scissor tool looking thingy in Sketch'.

Twitter
twitter.com/behoff/lists/sketch

Twitter was an extremely valuable in learning Sketch for me. Above is a link to a list of Twitter accounts posting awesome resources daily.

Plugins for Sketch
netm.ag/plugins-273

The Sketch community is strong and so are its plugins. Here's a great list of available plugins that will certainly pique your interest.



Smart symbols Sketch Symbols are similar to Photoshop's Linked Smart Objects, but a bit more customisable and powerful



Reusable elements You can reuse assets on different pages, and changes will be translated across



Objects Every shape you create in Sketch is an item in the layers list – no more hidden paths

► Symbols

What do Linked Smart Objects and Libraries in Photoshop have to do with Sketch, you ask? Well, Sketch has this little, big thing called Symbols. I think of it as the love child of Linked Smart Objects and Libraries, with a dash of hot sauce for an extra kick.

With Symbols, you can reuse assets or groups across pages and artboards. Make a change to the Symbol and, hot diggity dog, it changes everywhere! It even remembers spatial alignments if, for example, you're adjusting assets and/or text in a list. Even the words of the text change.

And here's that extra dash of hot sauce I spoke of: 'Exclude Text Value from Symbol'. Take for example, a button style that repeats, but with different text. Want to change the button style across the board, but keep the text? No problem. No extra 'Change all instances' option. Magic!

In addition to a group of elements that update automatically, you'll also find joy in defining styles for layers and text. Define, for example, H1 tags in GT

Walsheim – size 48 and with a shadow, and all instances will update across the board. Again, like magic!

SHAPING THINGS UP

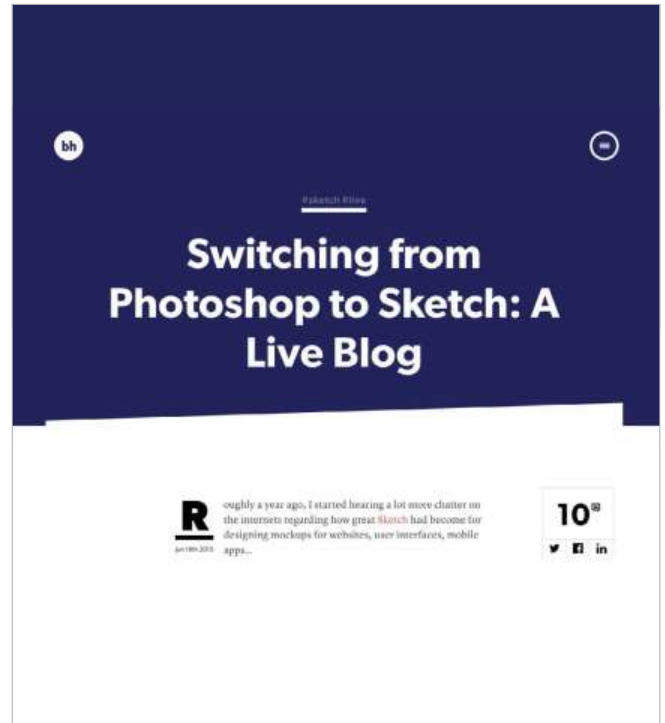
When designing user interfaces, apps and websites in Photoshop, I typically used shapes to create a variety of elements. You'll find similar ground with Sketch. Shapes is where I spend most of my time, creating buttons from rectangles, filling or masking large rectangles with image fills, drawing separator lines, and so on.

Photoshop provides you with a variety of ways to create vector and non-vector shapes and paths. However, Sketch is built around scalability. Everything is vector-based, and shapes can easily be adjusted on the fly.

For example, you could go back and add a corner radius to a rectangular button simply by selecting the 'Radius' option. You could also fill any shape with a photo and resize either one in a non-destructive way. This is great when testing how responsive images will scale and resize.



Other options If you're looking for a less expensive alternative to Photoshop for more graphic design purposes, give Affinity Designer a try



Sketch diary I live-blogged my first few days with Sketch at brianhoffdesign.com. My diary documents my experience, frustrations and fumbles

GT Walsheim Medium

GT

GT Walsheim Medium Oblique

Walsheim

GT Walsheim Bold

by

GT Walsheim Bold Oblique

Grilli Type

GT Walsheim Black

is a

GT Walsheim Black Oblique

Beauty

GT Walsheim Ultra Bold



GT Walsheim Ultra Bold Oblique

Type love No matter Photoshop or Sketch, a great typeface is always worth a mention. I just discovered Grilli Type recently

Sketch has this little, big thing called Symbols. I think of it as the love child of Linked Smart Objects and Libraries, with an extra kick

When masking an image within a shape, a personal tip is to not use the 'Use as mask' option. Instead, 'Fill with image' gives you much more flexibility most of the time.

There's also common ground between shape combinations in Photoshop and Sketch. While I don't personally create custom icons in Sketch (or any software for that matter), I do find myself needing unique shapes here and there. However, I'd imagine icon designers use this feature quite often.

BEYOND SKETCH

Here I've just touched on some of the features, differences and familiarities when moving over from Photoshop. Sketch feels like a great leap in the direction of a better, more fine-tuned workflow for designing UIs and sites. This doesn't eliminate the need

for a 'photo shop' application, like Photoshop or Affinity Designer, though. Sketch's power lies in its focus as an app for web and user interface design. No more, no less.

The learning curve from Photoshop to Sketch was quick enough. It took me three and a half days to get about 90 per cent comfortable within the app, and it was three weeks before I felt like I had a 99 per cent grasp on things. You can read more about my experience on my site, where I live-blogged my journey (netm.ag/days-273).

Sketch's user base is growing fast. Its community of plugins is impressive and effectively extends Sketch's capabilities. If you're looking for a new tool, and at an extremely reasonable price, Sketch is a great option. In my opinion, at the moment, it's the best choice for UI work. I'm excited for its future. **■**

ENCHANT YOUR CLIENTS

Amy Kapell shows you how to turn your everyday communications into a charming experience your clients and colleagues will rave about

For any competitive industry, and certainly the digital space, the creation of high quality work alone isn't enough. While you may win business on the basis of your work, you don't keep that business, grow that business or evolve that business into a long-term partnership without something else, without a little something extra. That something extra is enchantment.

WHAT IS ENCHANTMENT?

Enchantment isn't hokery-pokery or mysticism, nor is it purely esoteric. Neither is it fleeting; a one-time act of creating delight. It's not even about being an enchanting person (though that can initially help). Client enchantment is the end result of engaging in a set of customisable tactics and strategies, based on the belief that looking at the world through the eyes of another is fundamental to client services.



AUTHORS

AMY KAPELL

Amy (@amykapell) is the VP of client strategy at California digital agency Closed Loop. She's been enchantingly managing its clients in SEO, UX design and conversion strategy for over nine years



ILLUSTRATION

BEN THE ILLUSTRATOR

For over 15 years, Ben has been spreading his illustration work on everything from magazine covers and billboards to textiles *bentheillustrator.prosite.com*







Home ground Meet often with your clients, in their own environments



PHOTOGRAPHY: CHRIS ANDERSON

Possible outcomes It helps to anticipate issues and plan for the unexpected

- ▶ Enchantment elevates those involved to a higher level of engagement, respect and trust, and occurs over an extended period of time. You don't *do* enchantment; you achieve it.

CORE PRINCIPLES

Before we discuss tactics and strategies, it's necessary to understand some core principles of client enchantment, specifically: caring about your client, enjoying what you do, and customising your communication.

Care about your client

Think back to the last time you felt cared for. How did you know the care was authentic? Chances are it was because it was based on an understanding of your unique needs or situation, and someone wanting the best possible outcome for you. This is how every client should feel about the person providing them service. That's how every client should feel about you.

The good news is that it's not hard to learn how to genuinely care about your clients. Your ability to care about them comes from knowing something about

them; about their work environment, their motivations, their hopes, and maybe even their fears. We'll talk a little more about this later.

Enjoy what you do

People want to work with those who enjoy what they're doing. This is

People want to work with those who enjoy what they're doing. If you're passionate, geeky or just plain enthusiastic about what you do or a particular part of a project, let it be known

particularly true when striving to enchant your clients. If you're passionate, geeky or just plain enthusiastic about what you do or a particular part of a project, let it be known to your clients.

You don't have to derail a meeting to do it, but a simple aside here and there over the course of a project can easily and genuinely convey your enjoyment of the subject at hand. A client that knows you're engaged

and enjoying what you're doing is a client on the way to enchantment.

Try this

The next time you're in a meeting or a presentation and you realise this is an area that really interests you, look for a brief moment to make a comment

to that effect. Use the example below as a thought-starter:

"I know this sounds geeky, but I'm really excited these 2,000 articles are getting pulled into a relational, searchable database. This will be so helpful for users looking for this kind of information."

You'll be surprised at how much clients are enchanted by the knowledge you're enjoying their project.

EMAIL TEMPLATE

A client email template detailing core components and a description of why each is useful

	Component	Description	Basic Example	Why is it useful?
0	Subject Line	[Subject] + [Action Needed]	<i>Raptor Design Review 3 – for your feedback</i>	Clients are often inundated with dozens, if not hundreds, of emails/day, often from multiple people across multiple projects. Thus, subject lines should include both the subject AND the action needed (e.g. “for your feedback”, “for your reference”).
1	Salutation	[Salutation of your choice]	<i>Hi Janis,</i>	Taking the time to address the client by name is thoughtful and respectful. If it's a larger group, use pronouns like “Hi Team,” or “Hi Everyone, ...” or use the salutation space to thank the group for attending/participating.
2	Summary	[Purpose of email] + [action needed]. 1-2 sentences max.	<i>Attached is the Raptor Design Review 3 PDF for your feedback.</i>	The client should be able to read the first 1-2 sentences and easily understand what the email is about and what's needed of them.
3	Context/Details	[Provide detail, background, context, etc. as needed]. <i>Bullet points are very effective here.</i>	<i>As we discussed in our last call, below are the key changes made to this version:</i> • Updated hero image • Reduced intro copy • Increased module spacing	This step isn't always necessary, but sometimes clients need to be reminded what they asked for, what was previously discussed, what has changed, etc. – and a brief listing of “important things to know” helps orient the client without them having to go back and look for previous notes, versions, etc.
4	Call To Action	[Restate action needed] + [timing] (as applicable).	<i>If you could review and provide feedback by Tues, 12/24 at 3pm, that would be great.</i>	To help the timing stand out, bold the deadline and always include an actual date (don't just say “next Tuesday”) and specific time of day (if needed).
5	Offer Help + Close	[Indicate willingness to answer any questions, discuss, etc.] + [your typical sign off.]	<i>As always, please let me know if you have any questions.</i> <i>Thanks!</i> <i>Amy</i>	Though it may be understood that the client can reach out with questions, stating it clearly creates a tone of helpfulness, and reminds the recipient we are there for them. It's the difference between assuming your friend knows you support her/him and actually saying it out loud. Saying it out loud reinforces the message.

Customise your communication

No two clients are the same. As such, you can't employ the same tactics and strategies for every client and expect them to work equally well ... or even at all. One client may only want the high-level view. Another might want to know all the specifics. Some clients hate email; others love it. Certain clients might prefer you get straight to the point while others like it when you tell that one joke you know.

We customise the projects and solutions we provide to our clients. In much the same way, if we seek to enchant our clients, we must also customise how we communicate with each of them.

Try this

Think about two current clients you know fairly well. Write down how you think each of them prefers the emails they receive to be written, how they like meetings to run, whether they like to talk on the phone or in person.

Now consider how you communicate with each of them. Do you treat them the same? If yes, knowing what you

know about their differences; why?

If not, how does your communication style differ between them?

If you're working with a client who's very new or for whom you can't answer the previous questions, ask them directly what they prefer. They'll thank you for it – and be enchanted you asked.

HOW DO YOU ACHIEVE IT?

The pursuit of client enchantment lasts as long as the client relationship itself. The longer you work with clients, the greater the set of tactics and strategies you can employ. Below are some tried and true approaches that have proven to help achieve enchantment time and time again.

Get to know your client

As a professional service provider, part of your job is to understand your clients – their needs, their challenges, and even their idiosyncrasies. This knowledge is vital because people who know each other work better together.

Without this knowledge, incorrect assumptions can be made, important information can be ignored and

Enchanting emails

No matter how ubiquitous and casual email communication has become, in the world of client services, your email recipients are still your clients. They deserve a thoughtful, coherent and professional email from you – every single time.

If you have a long, established relationship with a client and both parties are in mutual agreement, you can move into a more casual email style. Until then, you should always err on the side of ‘too professional’ versus ‘too casual’. Each client email should be a well-crafted, customised piece of communication.

That said, ‘well-crafted’ doesn't have to mean ‘long’. It means being thoughtful about how your client will consume the email and what information is needed in order for that person to take the action you're requesting.

Every email should have a:

1. Clear subject line that combines the topic of the email with the desired action
2. Salutation that addresses either your client by name or the team. Don't start a client email without including a greeting
3. Summary that briefly states the purpose of the email and any action needed (one to two sentences maximum)
4. Context and details, as needed, to help your client take the action you're requesting (bulleted lists are very useful here)
5. Call to action that clearly calls out what you need from your client, along with any timing details
6. Closing that indicates a willingness to help or availability on your part, if needed



Are some people 'un-enchantable'?

There will always be those who refuse to be enchanted. It's true. It happens. And it will continue to happen. But in my experience, the number of clients who can't be enchanted is less than 5 per cent. For the rest, their lack of enchantment often means you haven't yet found what makes them happy or what they need.

If they seem unhappy, reach out to them and offer to have a conversation. This is your opportunity to uncover what they really want and possibly learn more about them at the same time.

If they seem disengaged or unimpressed, don't jump to the conclusion they aren't enchanted. If you're unsure, simply ask: "Is there anything else I can be doing to help you?" You'll be surprised how people will open up at that question and what a positive conversation this can be, even when nothing's the matter. That's enchantment at its most engaging.

► context can be missed. For example, maybe your client's team is getting divided into two different organisations and that explains why he's been so distracted lately.

Whenever possible, go to where your clients are – and do so regularly and informally. There's a lot of talk about getting clients 'out of their environment' but it's just as important to also see them in their own environment. Maybe your client's always late to your calls

1. What is a typical work day like for them?
2. Where does their project with you fall in their list of priorities?
3. What's the biggest challenge in their current role?

If you can easily answer these and similar questions, congratulations! You know your clients well.

If you can't, and want to make strides toward client enchantment,

Go to where your clients are, and do so regularly and informally. There's a lot of talk about getting clients 'out of their environment', but it's just as important to see them in their own environment

because she's in back-to-back meetings, often on the other side of a large campus. The more you know about your clients and the larger world in which they live, the more effectively you'll be able to understand how best to work with – and enchant – them.

Try this

Pick a few current clients and write down the answers to these sample questions:

you need to spend more time getting to know your clients and their particular environment.

Write client-friendly emails

If your clients are like mine, they receive hundreds of work emails per day. And for days on end, email may be the only form of communication you have with them. In that environment, how do you make sure your emails get



Making friends Getting to know your clients is vital to achieving enchantment



read without your client feeling like you're haranguing them?

You think like a (good) email marketer. People open emails from senders they trust and like, with subject lines that are compelling. Clients are no different.

Client-friendly emails have:

Descriptive subject lines

Don't write them as categorical topics (e.g. 'Your SEM Campaign'). Instead, include high-level calls to action (e.g. 'Your SEM Campaign – what is the strategy for December?' or 'FYI ONLY: Your SEM budget numbers').

Scannable body content

Don't write a narrative email unless your client expects it – busy clients don't have time to read them. If the subject is that complex, schedule a call and follow up with an email summary for reference.

Instead, break content into bullets or a scannable list wherever possible. My rule of thumb is to keep each paragraph to roughly two or three sentences. If you need more sentences, start a new paragraph.

Call(s) to action

Don't pepper your questions throughout the body of the email. Do include a call to action in every email, even if it's: 'No action needed.' Your client deserves to know what to do with the information you've provided.

Try this

The next time you feel the need to write a lengthy email (this often happens in project management), write the email like you normally would. Then step away for a few hours. When you come back to it, reduce the length by 50 per cent, but without sacrificing the pertinent information your client needs to answer your question or understand the situation. Then reduce it again by another 25 per cent. It's hard, but it's possible.

In the chaos of our busy work lives, clients find people who know how to communicate efficiently by email very enchanting.



A little enthusiasm Enjoy your clients and the work you do together



Look around corners

My colleagues and I have a philosophy we call 'looking around corners'. It's our description for constantly planning for the worst-case scenario. Some would call it healthy paranoia – I call it good client management.

Say you know your client is juggling seven different initiatives and you need his final approval on a design you emailed him last week. You have a 15-minute phone call with him in which to review. Looking around corners would be to anticipate he wouldn't have ready access to last week's email, so as a backup you have the design ready to share as soon as he joins the call.

Try this

Take a pending deadline or deliverable and brainstorm five potential worst-case scenarios – how could it possibly go wrong? Now develop contingency plans for each. Make this thinking such an ingrained part of your process that you do it all the time, and soon you'll hardly be aware you're doing it.

Looking around corners means you'll be in the constant practice of solving problems. There are few things more enchanting than someone already having a solution to a problem that hasn't happened yet.

Keep your commitments

Doing what you say you'll do, when you say you'll do it, is one of the easiest and most obvious paths to client enchantment. However, it never ceases to amaze me the number of people and agencies out there that don't do this one simple thing. Short of catastrophic events, there's no excuse for not doing what you said you'd do.

Try this

Keep all your client commitments – even the small ones.

WHERE DO WE GO NOW?

I believe anyone can achieve client enchantment. If you feel like you've already done so, then on behalf of clients everywhere, thank you. Please pass on what you know to others. We can always use more enchantment in the world.

If you haven't yet achieved it, start trying out the activities I've outlined in this article and see how they work for you. These are but a small subset of the tactics and strategies available for enchanting your clients, but they're good starting points.

Who knows? With enough care, customisation and enjoyment, maybe you'll be enchanted, too.

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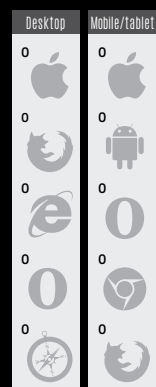
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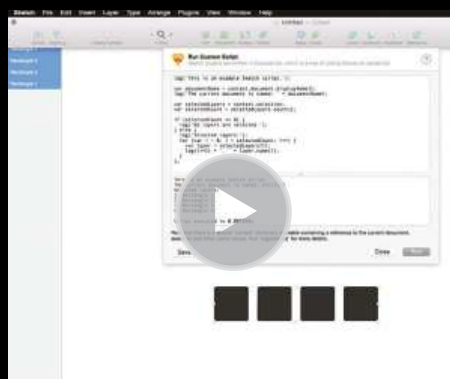
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BROWSER SUPPORT

We feel it's important to inform our readers which browsers the technologies covered in our tutorials work with. Our browser support info is inspired by @andismith's excellent *When Can I Use* web widget (andismith.github.io/caniuse-widget). It explains from which version of each browser the features discussed are supported.



EXCLUSIVE VIDEOS

Look out for the video icon throughout our tutorials. This issue, three authors have created exclusive screencasts to complement their articles and enhance your learning, including Richard Burton's tutorial on customising Sketch with plugins, and Eric Portis' guide to building sites with responsive images.



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areas of expertise:
HTML5, SVG, CSS

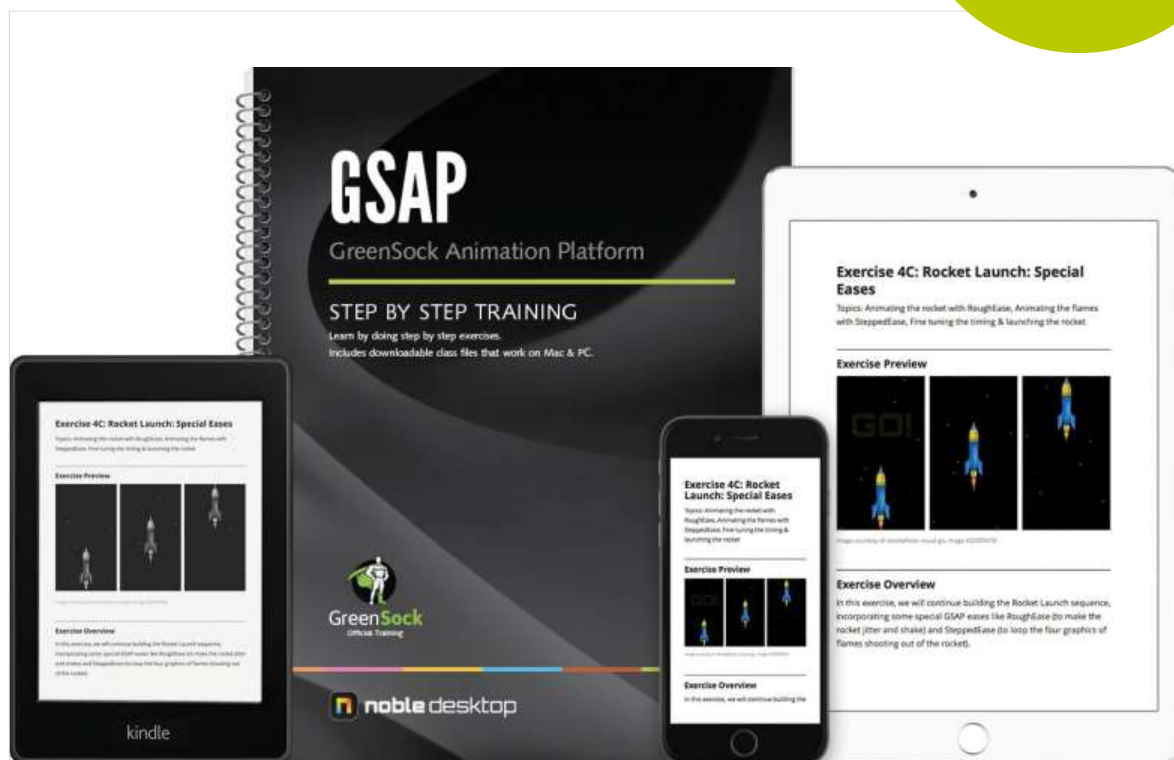
q: what did you want to be when you grew up?

a: As a kid, I was fascinated by dolphins, which made me dream about being a marine biologist

View source

files here!

All the files you need for this tutorial can be found at:
netm.ag/svgcode-273



* SVG

SUPERCHARGE YOUR SVG ANIMATIONS WITH GSAP

Sara Soueidan explains how to use the GreenSock Animation Platform to create an animated SVG banner

> Flash has served as the de facto standard for banner ads for more than a decade. But today, with the absence of Flash support on mobile, Google announcing that Chrome will start disabling Flash adverts in web pages, Firefox blocking Flash by default due to security issues, and Facebook's chief security officer calling for Adobe to kill it altogether (netm.ag/kill-273), it is clear that the era of Flash banners is coming to an end. And it's time for a better replacement.

HTML5 animations are the perfect successor, especially considering how modern browsers handle and optimise animations created using JavaScript and CSS. SVG also makes an excellent tool for creating banners. By animating the content

of SVG images, you can create appealing animations that look great on all screen resolutions. In this article we're going to animate an SVG banner using JavaScript.

WHAT IS GSAP?

The GreenSock Animation Platform (GSAP) is a suite of tools for creating scripted animations, and it is one of the most powerful JS animation libraries available today. I don't work for GreenSock nor have they paid me to write this article. I just love the library and highly recommend it for the great features it offers. GSAP has been around for a long time and comes with a mature API that covers the vast majority of our animation use cases.

RESOURCE

Some online tools enable you to visually create GSAP-powered banners. Options include Loxia Studio (loxiastudio.com), HTML5Maker (html5maker.com) and runbanner (runbanner.com)

- **Speed:** GSAP is created with a huge emphasis on performance and optimisation, making it one of the fastest animation libraries (it's up to 20 times faster than jQuery). Even Google developers recommend GSAP for JavaScript-based animations.
- **Cross-browser compatibility:** One of GSAP's best features is that it solves browser compatibility issues, so you don't have to fret about browser prefixes, bugs or property inconsistencies. It handles all the cross-browser bits for you under the hood.
- **Refined tools, total control:** The number one strength of GSAP is its animation sequencing capabilities. You can create individual tweens to animate just about any property of an element. You can also chain tweens into a timeline, making it simple to control them as a whole and precisely manage their timing in relation to each other. You can even nest timelines inside other timelines, as deeply as you want.

GSAP is one of the most powerful JS animation libraries available today

GSAP comes with core tools, and there are additional plugins that enable you to extend its functionality. You only need to add the plugins required for your particular project, thus maintaining as small a file size as possible. You can find details about all of them at netm.ag/details-273.

GSAP's TweenMax is a full-featured tool that handles the animation of any property over time, in addition to providing extra functionality by including some of GSAP's utility plugins by default. The focus is on being full-featured rather than lightweight. TweenMax also includes all the



Post-Flash GreenSock has written an article explaining why HTML5 banners are the future (greensock.com/html5-banners)

* FOCUS ON

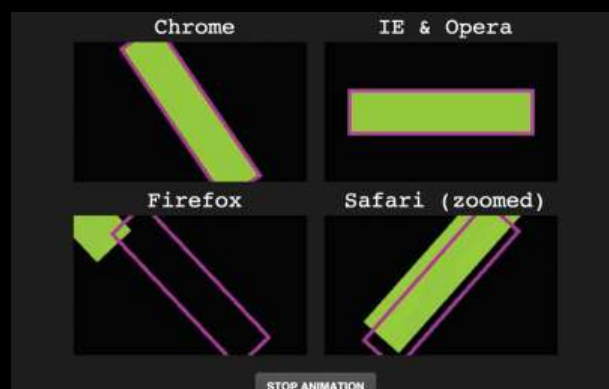
TACKLING CSS AND SVG PROBLEMS

+ Animating SVGs with CSS is similar to animating HTML elements with CSS, with the one fundamental difference that the default origin of the transformation of an SVG element is not the centre of that element – it's the origin of the current user coordinate system in use. Most of the time, this is the top-left corner of the SVG canvas.

With that in mind, animating SVGs with CSS should be conceptually predictable and fairly simple. However, in practice, it is anything but. With IE (and MS Edge) and Opera not supporting CSS transforms on SVG elements, Firefox currently not honouring percentage-based transform origin values, and Safari breaking the sync between percentage-based and absolute-unit-based origins (e.g. pixels), animating SVG with CSS becomes unreliable.

GSAP enables you to animate SVGs with an intuitive, easy-to-learn syntax. Behind the scenes, it applies CSS transformations to SVG elements where they are supported, falls back to SVG transformations using the `transform` attribute where they are not, and works around Firefox's percentage-based transform origin bug (for the juicy details about these obstacles and solutions, read the article at greensock.com/svg-transforms).

GSAP takes support even further by making animations work as you would expect them to, even if that's not how they would normally work. For example, it lets you change the transform origin of an already-transformed element without the unsightly jumps that can be caused by the default behaviour described in the SVG specification. You can read more about this at greensock.com/svg-tips. This article also includes a video explanation of the problem and common solutions and tips for animating SVGs.



Browser differences The results of applying exactly the same CSS rotation animation to two rectangles in different browsers



Banner example The GreenSock team has created quite a lot of animated SVG and HTML5 demos, including banners like this one, on its Codepen profile

- timeline sequencing and controlling capabilities we'll be using throughout this tutorial.

GSAP can be configured to work with the selector engine of your choice – it will even fall back to `document.querySelectorAll()` if you prefer vanilla JavaScript. So, unlike many other animation libraries, it has zero dependencies.

Now you're (hopefully) sold on GSAP's superpowers, let's put it to practice and see how easy it is to create animated banners with it.

PREPPING THE ASSETS

For this tutorial, we'll be animating a (modified) banner originally designed by Freepik (netm.ag/banner-273). The image opposite (p87) shows the four 'screens' of the banner. We'll be animating from one to another in order to create a complex overall animation.

By default, all screens are visible inside the banner, stacked on top of each other. Using GSAP, the elements are hidden, then animated into view and out again so the elements on the following screen can animate in. We will be breaking the animation down into individual tweens, combined into timelines (one for each screen) that are then added into one master timeline for the whole banner.

First, we need to include TweenMax in our page. We can load it from a CDN:

```
<script src="http://cdnjs.cloudflare.com/ajax/libs/gsap/1.17.0/TweenMax.min.js"></script>
```

Next, we set the `visibility` of the SVG to `hidden`. This is something you will find yourself doing often. Because the animations will only start after the script is loaded, doing this helps us avoid a short 'flash' of the banner assets before the animation starts.

```
svg { visibility: hidden; }
```

We will unhide the SVG again at the beginning of the script, right before we run the animations.

GSAP'S TWEENING METHODS

To create a simple tween you can use one of GSAP's methods: `from()`, `to()` or `fromTo()`. An example of these being used to animate an element might look like this:

```
TweenMax.from('#element', duration, {property: value})
TweenMax.to('#element', duration, {property: value})
```

The `from()` method basically tweens backwards – you define the beginning values (in the tween) and the current values are used as the destination values. This is great for doing things like animating objects onto the screen, because you can set them up the way you want them to look at the end of the tween, and then animate in from elsewhere. This is exactly what we are going to do for our banner screens. The `to()` method will animate the target element from its current state to the destination values you define. Hopefully, `fromTo()` is now self-explanatory.

These methods are used to define a single tween (which might be animating multiple properties). These tweens can then be appended to one timeline so they execute sequentially:

```
var tl = new TimelineMax(); /* create a timeline */
tl.from('#element', duration, {property: value})
  .from('#element', duration, {anotherProperty: value, ease:
    easingFunction})
  .to('#anotherElement', duration, {someProperty: value,
    someOtherProperty: value, delay: value})
```

You can add as many tweens as you want and those tweens can be applied to one or more elements. The timeline will play these tweens in the order you specify. The more complex your animations, the more scenes they will include. Each scene would be a series of 'micro' animations (the tweens) that

happen at some point along the main timeline. It is possible to have tweens overlap and play relative to each other's time.

You can also combine timelines into one master timeline. This is achieved by using TimelineMax's `add()` method to literally add the timelines into the master timeline. These timelines can then be controlled just like individual tweens can.

For our animated banner, we will create four different timelines (one for each screen), and then these four timelines will be combined into one master timeline:

Add as many tweens as you want to a timeline, and apply them to one or more elements

```
var master_tl = new TimelineMax();
master_tl.from('svg', .2, {autoAlpha: 0}) /* show the hidden
SVG first */
    .add(animateScreen1())
    .add(animateScreen2())
    .add(animateScreen3())
    .add(animateScreen4());
```

Each of the functions inside the `add()` method will be used to define and return a timeline, which makes this sequencing possible. The `autoAlpha` property is the same thing as `opacity` except that when the value hits 0, the `visibility` property will be set to `hidden` in order to improve browser rendering performance and prevent clicks or interactivity on the target.

ANIMATING ELEMENTS INTO VIEW

We want to animate the screens into view so that they appear as if they were initially off-canvas. We'll be using GSAP's `from()` method to define where they will animate from. Let's start by slide-fading in the text from the left.

First we create and return a timeline inside the `animateScreen1()` function, then we add to it the tween that will animate the text into view. You need to make sure you give the elements you want to animate proper class names and/or IDs for reference.

```
function animateScreen1() {
    var tl = new TimelineMax();
    tl.from('#Banner1-text', .6, {opacity: 0, xPercent: "-100%",
    ease: Power3.easeOut});
```

```
    return tl;
}
```

The text is animated in from a `-100%` position (which means it is translated to the left, outside the banner's visible area) and opacity value `0`. We'll get to the easing function part later.

Instead of `translateX` and `translateY`, GSAP uses `x`, `y` and `xPercent` and `yPercent` to apply a translation to an element. You can learn about the difference between them in this video tutorial from Petr Tichy (netm.ag/x-273) or this blog post from GreenSock (netm.ag/x2-273).

SYNCHRONISING TWEENS

We want to fade the world map into view at the same time the text animates in. This is possible by using 'labels' inside the timeline. A label defines a point in time when the animation will start, and can be used in multiple tweens inside the timeline in order to play those tweens at the same time.

```
tl.from('#Banner1-text', .6, {opacity: 0, xPercent: "-100%",
ease: Power3.easeOut}, "first")
    .from('#Banner-world-map', 1, {opacity: 0}, "first")
```



Banner plan The four scenes making up the banner. Each of these screens will be animated sequentially

* RESOURCES

FURTHER READING

+ There are plenty of resources to help you get to grips with both GSAP and SVG. Here are my favourites:

GSAP: Step by step training

nobledesktop.com/books/gsap

This is the official workbook on GSAP. It's written by Carl Schoof, one of the two creators of GSAP, and it's a superb place to get started with GSAP because you get to learn by doing. There are exercises that will teach you everything you need to know to start using GSAP in your projects today, all from the ground up.

GreenSock website

greensock.com/get-started-js

This contains the best GSAP documentation and starting guide. The online guides include code examples, CodePen demos you can play with, interactive demos for getting a feel of the GSAP features, as well as videos that explain them in an extremely easy-to-understand manner.

A compendium of SVG information

css-tricks.com/mega-list-svg-information

If you want to explore further, Chris Coyier has collected a list of resources for learning SVG on CSS-Tricks.

SVG Essentials

netm.ag/essential-273

If you prefer printed material, this book by J. David Eisenberg and Amelia Bellamy-Royds is an excellent beginner-level guide to SVG.

My first SVG banner ad

netm.ag/gannon-273

Chris Gannon has written a case study about how he created an SVG-only banner using GSAP for the animation. He shared a lot of great insights, tips and lessons learned in this blog post he wrote on CodePen. His profile is also full of GSAP-animated SVG examples and worth checking out.

Creating an HTML5 banner ad with GreenSock

netm.ag/lynda-273

This video tutorial on Lynda.com explains how to create GSAP-powered ad banners.

Sara Soueidan website

sarasoueidan.com

I write about SVG quite a lot, so I'm sure you'll find something useful here.

- You can call the label anything you like. Here, I've chosen "first" because it's the first point in time, so to speak.

GSAP's labels can also be relative: you can use a label that specifies when to start a tween relative to the preceding tween. For example, you could use a "+=1" label that indicates that the current tween (or timeline) should start animating one second after the preceding one finishes.

STAGGERING ANIMATIONS

If you want to apply the same animation to multiple elements in sequence, you can leverage GSAP's staggering functions. This saves you from writing multiple instances of the tween for all those different elements.

In the first screen, there are two sets of icons: a monochrome set and a coloured set. Each set is a group (`<g>`) which in turn contains other groups, one for each icon's contents. We will use the `staggerFrom()` method to define a tween that will be applied to icons in each group. This method will 'pop' the icons in one after the other:

```
.staggerFrom("#monochrome-icons > g", .2, {scale: "0",
opacity: "0", transformOrigin: "50% 50%"}, 0.1, "second")
```

The numerical value right before the label (here "second") is the stagger value. This indicates the amount of time in seconds by which to stagger the start of each tween.

SPECIFYING EASING FUNCTIONS

When the second screen is to be animated into view, the function responsible for that animation first needs to remove the elements of the previous screen. The second animation will be defined in the



HTML5 With the help of GSAP's plugins, you can create impressive HTML text animations, like the GreenSock homepage banner

`animateScreen2()` function, and will use `staggerTo()` to animate the first screen's elements out:

```
function animateScreen2() {
  var tl = new TimelineMax();
  //start by removing scene 1 elements
  tl.staggerTo("#monochrome-icons, #colored-icons > g,
  #mobile, #tablet, #desktop", 0.3, {x:"+=200", autoAlpha:0,
  ease:Power2.easeIn}, 0.03)
  .staggerTo("#Banner1-manage, #Banner1-projects,
  #Banner1-text", 0.5, {attr:{x:-200}, autoAlpha:0, ease:Power2.
  easeIn}, 0.1, "-=0.5")
  .to("#Banner-bg", .6, {fill: "#D1F2F8"}, "-=0.2")
  //animate the second scene
  .add("first", "-=0.6")
  ....
  tl.delay(.5);
  return tl;
}
```

The easing function specified for the `ease` property (`Power2.easeIn`) is used to create more elasticity, thus adding to the overall fluid effect. GSAP comes with a big bunch of built-in easing functions. Learn all about them in the docs: netm.ag/ease-273.

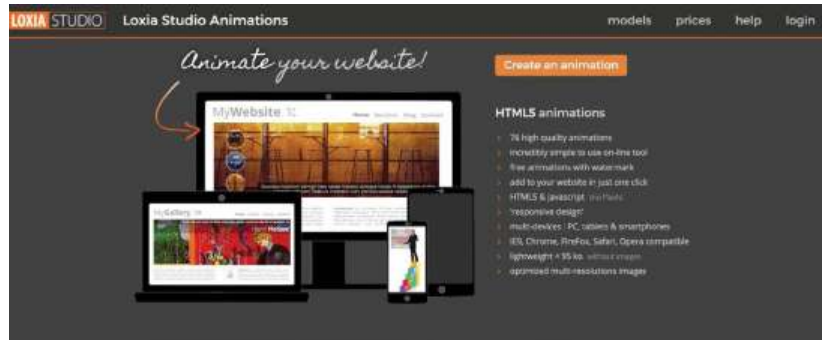
The `tl.delay(.5)` part is there to delay the execution of the animation. The reason we're delaying it is to give the user some time to read the contents of the first scene before we get to the other. The banner would be useless if the animations stood in the way of the message being read. `.add("first", "-=0.6")` enables us to create overlap by tightening the time between the previous and following tween.

SPECIFYING SVG TRANSFORM ORIGINS

The code for the third screen looks similar to that of the previous screens, with the exception of a new property that is used to animate the clock's hour and minute hands:

```
function animateScreen3(){
  var tl = new TimelineMax();
  tl. ...
  .from('#hours', 2.4, {rotation: "360", svgOrigin: "496.5
  53.2", ease: Power0.easeNone}, "first")
  .from('#minutes', .6, {rotation: "360", svgOrigin: "496.5
  53.2", ease: Power0.easeNone, repeat: 3}, "first")
  return tl;
}
```

You can specify the transform origin of an SVG element using either a percentage value (relative to the element's bounding box) or an absolute value (relative to the entire SVG canvas). The latter is specified using the `svgOrigin` property.



Helpful tools Online tools such as Loxia Studio enable you to visually create GSAP-powered banners

Sometimes it can be useful to use `svgOrigin` instead of `transformOrigin`.

Since both clock hands were being animated relative to the same point on the canvas, I've specified the coordinates of that point as the transform origin for both of them.

USING BÉZIER TWEENS

In the last screen, we have a line of text that is divided into multiple `<tspan>` elements – one wrapping each word, and a call-to-action. The best we can do here is to animate the visibility of the words.

That said, if you are creating an HTML5 banner that animates HTML text, you can create extremely impressive text animations using GSAP's plugins. GSAP's homepage banner (at the bottom of the facing page) is a great example of that. You can check its code out at netm.ag/home-273.

To create a wiggly effect for the call to action button, we want to rotate it to the left and right a few times in a row. Instead of using multiple rotation tweens, we can use the Bézier plugin to move the values through a certain set smoothly, thus avoiding the jerky effect that could result from individual tweens.

```
.to('#call-to-action', 0.9, {transformOrigin: "50%
200%", bezier:[{rotation:-10},{rotation:8},{rotation:-
5},{rotation:3},{rotation:0}], ease:Power2.easeInOut}, "+=0.3")
```

Provide the `bezier` object with an array of values and it will animate through them smoothly. Could it get any simpler?

SUMMING UP

GSAP's powers really shine when you start creating sequenced, complex animations. All its sequencing and time control features make it an indispensable tool in our animation toolkit today. So go ahead, take GreenSock for a ride and propel your animation powers to the next level. **■**

RESOURCE

Petr Tichy has recently created an online video course for animating SVGs with GSAP. He also frequently writes about GreenSock and sometimes does live deconstructions of sites using GreenSock for animation. ihatetomatoes.net



ABOUT THE AUTHOR

MARC ANDERSON

w: marcbanderson.com

t: @marcbanderson

job: Designer

areas of expertise:

Design, art direction

q: what did you want to be when you grew up?

a: A geologist or an archeologist, so I wouldn't be confined to the indoors ... oops!



* PORTFOLIOS

DESIGN A PORTFOLIO THAT PACKS A PUNCH

It can be tricky to make your portfolio stand out from the crowd.

Marc Anderson walks through how to make your work shine

> I look at a lot of portfolios every day in my job at Fantasy, spanning a wide range of disciplines and talents. Because there are so many, I've had to develop a strategy to enable me to quickly tell whether a designer has both the visual talent and UX thinking to thrive with us. In short, a way of separating good work from work that simply looks good.

There are plenty of great platforms and tools out there to help designers display their work beautifully. Tools like Semplice, Cargo, Squarespace and Readymag all offer templates that feature gigantic imagery and enable users to build in engaging interactions.

The problem is that these platforms look so great out of the box that they can easily mask the true talent level of the designers using them. Grabbing a nice photograph of a car might make for an arresting project marquee, but if the work that follows isn't as interesting, it'll be clear to me that the designer has put more effort into making a portfolio than they put into the work featured in that portfolio.

What follows is a how-to version of the mental checklist of elements I look for in a great portfolio. Not every single one of these is required, but the best portfolios I see include the majority of these ingredients. Let's get started ...

01 The first step is to select projects that you think are the best indication of your talent. A well-curated body of work is the first indicator that an individual can decipher good from bad. We have all taken on projects that didn't have a favourable outcome, but guess what? You don't have to advertise them! A single piece of bad work can undermine an entire portfolio. It demonstrates a lack of taste for only the best quality.

02 Choose pieces that hint at work you'd like to do in the future. Many designers believe their portfolio is an archive of the work they have completed in the past. While this is true, it should also be a springboard from which to win future opportunities. I often hear from potential clients who like pieces in my portfolio and want to talk about related projects, proving that it's advantageous to show the kind of work you'd be happy to do more of moving forward.

03 A great way to show your abilities is to develop a personal project showcasing how you might approach design for an existing product or brand. I love looking at personal projects because they demonstrate a designer's talent when they're free from the constraints of

demanding clients and business needs. However, because this work is created in a bubble, it should be clear to your audience that it is not client-driven, and is not an indication of your ability to solve problems stemming from client feedback.

04 If you include personal projects, avoid redesigns for brands with a strong design presence. Nike, Apple, Burton: these are all brands with a strong heritage and even stronger design language. They have already set the tone and style for any work created for them, and anything unsolicited would blend in with their current work regardless of how innovative it may seem. Instead, either focus on solving a usability problem with an existing product, or select a brand that is not as ubiquitous.

05 Before even approaching the computer, determine how you are going to talk about each piece of work. Where did this piece start? How did you embark on the process? Where did you look for inspiration? How did the design take shape? Were there any hurdles along the way? What were the results? These are all questions that should be answered in order to demonstrate critical thinking in your creative process.



Step 7 Gather material that shows your creative process, such as initial sketches

06 Each piece within your portfolio is a 'story' and should be laid out in a proper arc. Where did the project begin? How did you respond to the task? What was the final solution? How and where was your solution carried out? All of these questions need to be answered in the proper order for easy consumption, so your viewer can get a sense of the wider scope of your involvement and expertise.

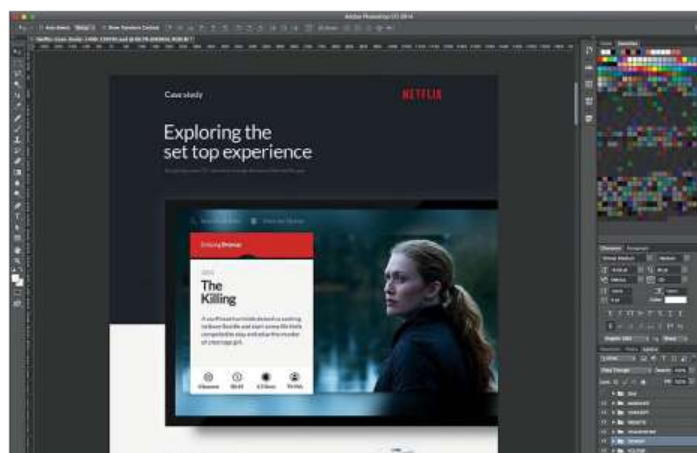
07 Gather artefacts from your process. I love seeing and hearing about the creative process of other designers and geeking out over sketches. In addition to collecting pixel-perfect final artwork, consider including any work you did along the way. Any colour explorations, photographs and so on, tell me that you look for inspiration outside of Photoshop and work through various problems or roadblocks to get to a final solution.

08 Think of your audience as a client in a design presentation. How did you get to typographic decisions or colour choices? Did you thoughtfully approach the use of a grid? How does your framework scale to

*EXPERT TIP

SAVE YOUR SOURCE FILES

Be sure to save your design source files from past projects! With these you can create large, beautiful marquee images from your work – a straightforward way to keep your portfolio fresh with each update. Plus, as phones and devices evolve over time it'll be worth updating the contextual imagery on your site to match, even if the work was created long ago.



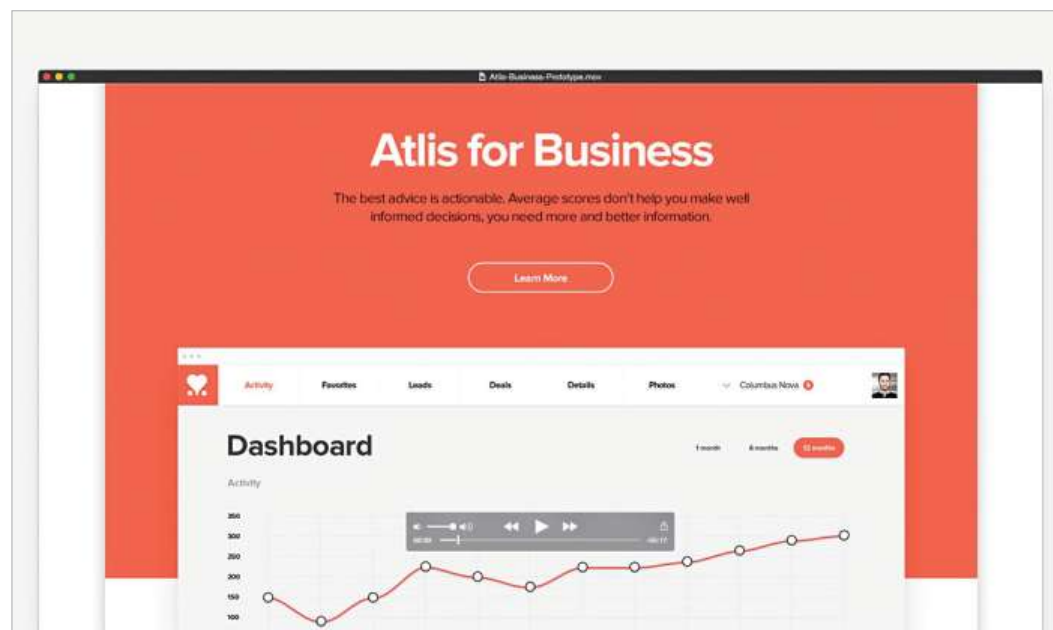
Step 2 Present examples of the type of work you'd like to do more of in the future

► multiple devices or increased amounts of content? Including these steps helps justify your final design choices and gives depth to the work overall.

09 If your portfolio contains interactive work, show your thinking behind how elements on screen behave when the user is present. This will transform your design from simply a nice layout to an immersive experience. Think too about how your interactions are unique to each project, and go above and beyond the work others have seen before. This will help your audience see how the piece functions overall, even without having to experience a live demonstration.

10 Simple prototype animations or animated demo videos add a tremendous amount of value to your projects. These should not take the place of a well thought-out story told through design, but they go a long way in conveying the interactions, interesting movement, and spacial relationships that flat comps just can't. These should be used sparingly and placed thoughtfully so as not to interfere with the project story's flow.

11 Interactive projects are often in-depth explorations of complicated processes and interactions. When selecting which elements of your projects to focus on, be sure to show any processes, even if they aren't the flashiest elements. They will help your



Step 10 Careful use of video or animations can add great value to a project story

audience see how you think through complex design and interaction problems while still working to maintain a quality product.

12 While I've discussed including a number of visuals for process and function, it is important to consider the presence of each visual you select. A tight portfolio has very little fluff and doesn't try to distract the viewer.

A good example is the ubiquitous 'grid of devices'. Sometimes it may be relevant to demonstrate that a product works on multiple platforms or screen sizes, but more often than not this is unnecessary visual candy. I suggest avoiding it unless you have a strong argument to the contrary.

13 Do the work justice, don't hide it behind flashy imagery. Just as images of designers holding posters were popular years ago, now it has become popular to show design work angled in three dimensions. This serves no purpose other than to distract your viewer from how good the work really is. Reserve angles to show frameworks and how elements sit in relation to each other within the context of the overall design.

14 Give context to each piece. This is a tricky one, and should be considered on a case-by-case basis. Interactive design always exists within the context of a browser, television, or mobile device. Consider showing

at least one design within the context of the key device it would live in to give an indication of the scale of the elements and their relationship with the edge of the screen.

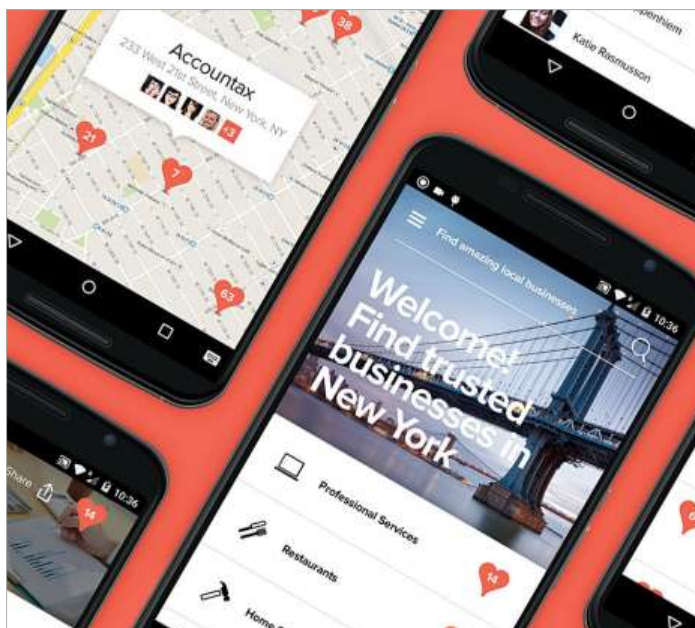
15 Labour over the creation of each asset in the same way you laboured over the work to begin with. This is the most tedious part of creating any portfolio, but by far the most important! As much as a portfolio shouldn't get in the way of the designs within, any design elements applied to the portfolio itself should be considered with the same attention to detail that you give all of your projects. That goes for typography, imagery, colour choices and so on.

16 Consider the platform where you will showcase your work. Will it properly convey each piece's story? Will it easily scale with additional projects? There are several to choose from these days – Squarespace, Semplice and Readymag to name a few – and each have their pros and cons. Before committing to a platform be sure to test each option and look at examples to ensure you are moving

* EXPERT TIP

SAY CHEESE

Get a nice headshot! This may sound a bit narcissistic, but if you are looking to gain further traction as a designer it will be important to appear professional, friendly and approachable. It doesn't need to be fancy, but you should have a photo where you are the focus of the image, there is an uncluttered background, and the size is large enough to work both in print and on the web.



Step 12 Avoid fluff – a grid of devices rarely adds to the project story



Step 13 Angled devices might be in vogue right now, but this approach can be distracting

forward with the best solution for you and your work.

17 Look for additional outlets to show off your projects and point of view. If you've created work that has an interesting story behind it, consider writing a Medium article about your process and approach. There you can give an account of your work in greater detail, and increase your presence to a broader audience. You never know, this might create leads you hadn't been exposed to previously.

18 Solicit friends and colleagues for feedback. As many of us consider our work extremely personal, this step is frequently overlooked. However, asking an objective outsider to cast an eye over your portfolio can be incredibly useful. Just like with professional career criticism, it can help you push your work to the next level. It will also help you gauge if your project stories are understandable and clear to outsiders, which is key if you want others to reach out to you once it has launched.

19 Don't forget to tell your own story as a designer! This is a hotly contested aspect of every portfolio: just how much personality should you show? I lean toward liking less 'quirkiness' or forced creativity, and instead look for a quick summary of the creative's professional background.

This element is often an afterthought; just a paragraph of text or a link to LinkedIn. You might try putting together a simple case study about you, highlighting work experience and clients, presented in an easily digestible, strongly typographic way.

20 Share it everywhere! After all that hard work you deserve to be a little obnoxious. There are all the usual outlets for creatives, but design is inherently about solving problems for businesses outside the design community. Find people and places to share your work with who don't work in your industry. Do they understand your approach? Are they interested in your work? It just might lead to another great project and ultimately an addition to your portfolio. **n**

* EXPERT TIP

CREATE A CASE STUDY

Case studies are a great method for creating a single, self-contained story about each of your projects. A well-designed case study tells the story of a project within the context of the brand, and is in itself a piece of design. Once you've created a case study you can then easily post it on Behance or attach it to Dribbble to get greater exposure amongst your peers, recruiters and potential clients.



Step 19 Don't forget to introduce yourself – a little personality can go a long way



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job: Lead web engineer,
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areas of expertise:

HTML, CSS, PHP,
JavaScript (browser and
Node.js), WordPressq: what did you want to
be when you grew up?a: When I was six, I
wanted to be an architect

* TESTING

AUTOMATE YOUR PRODUCTION TESTING

Eric Mann walks through how to use Jenkins to automate your production test suite, helping to ensure you ship bug-free code

> Mark was excited. Just one more ticket to close and he could duck out early for a weekend on the lake. Just him and the fish: no Wi-Fi, no IDE, no client meetings. Three lines of code and the bug would be patched. A Git push and the new code would be online and the client would be happy. Simple.

Mark loaded his local dev site to confirm those three lines fixed the bug. Success! He wrote a quick commit message and pushed the code up the chain. Mark smiled as he shut the lid of his laptop, already thinking about the last-minute items he needed to pack for the trip. Next stop: freedom!

Except the code now living in production only worked on Mark's machine. A library required by the project had been accidentally `gitignore -d` and, while it happily ran for Mark, never made it to the server during his deployment. The site updated, crashed, and Mark's team went on red alert immediately when the client panicked. It took all weekend to track down the missing file. On Monday morning, Mark came home to an angry dev team, an angrier client, and a sudden impulse to refresh his resume.

HORROR STORIES

This story might seem fictional but, aside from 'Mark', it's one that I, like most developers, have experienced many times, from both sides of the team.

But solutions are lacking. Instead of real changes to our infrastructure, we try to teach good behaviours. As a policy, all code must be peer-reviewed before being checked off in the ticketing system. No deployments are ever made on a Friday. Engineers have to earn the right to work on the `master` branch.

These protections are a noble first step to solving the problem. Unfortunately, humans make mistakes,

steps are skipped when deadlines loom, and dictated behavioural practices usually prove to be mere Band-Aids that often fail to stop the bleeding.

CONTINUOUS INTEGRATION

A better solution is to remove human error from the equation and automate these pre-deployment best practices. Through unit testing, we can be absolutely sure that any changes in our code don't break the build before it ships. Typos triggering white-pages-of-death or server-side 5XX errors become a distant memory. Stack traces printed above call-to-action forms are a thing of the past. Requiring unit tests helps ensure projects work correctly before anything ever leaves a developer's machine – most of the time.

Unit testing is great for automatically ensuring the integrity of code on one machine, but it falls short of fixing the "it worked for me" issue illustrated above. Rather, we need to distribute our testing code to the entire team while also ensuring it's actually run in multiple environments.

Enter Jenkins (jenkins-ci.org), an open source continuous integration server. Thanks to Jenkins, a common build server sits between the team and the production environment, automatically testing every commit before it goes live. Jenkins can also enforce generally accepted best practices in code quality.

HOW IT WORKS

Code can be as broken as it needs to be locally, but once a commit is pushed up to a central repository, Jenkins runs your build processes automatically.

Jenkins runs unit tests to inspect code functionality. It can also run code linting tools to



RESOURCE

Find the code for
Itinerant Jenkins at:
[github.com/ericmann/
itinerant-jenkins](https://github.com/ericmann/itinerant-jenkins)

analyse code style and performance. It can even generate API documentation so the team (or external contributors) can keep up with project progress.

DETERMINING WHAT TO AUTOMATE

Before any workflow can be automated, you have to establish a consistent checklist of actions. Not everything has to be automated right away: your checklist could be as simple as just running a code linting tool. Start with the most frequently executed tasks. They consume the most time and will be the largest early automation win. For a PHP project, this task list probably includes:

- Run all unit tests for the project
- Run PHP_CodeSniffer to ensure code quality
- Run phpDocumentor to generate documentation for your API
- Push to a `gh-pages` branch on GitHub
- Run a Selenium test suite to validate UX delivery
- Deploy the code to the production database

If Jenkins encounters a failure in any of the steps above, it can – and should – immediately halt the build and notify the team that something is wrong.

ITINERANT JENKINS

While the first step in the build process above might be testing, the first step in automation is, of course, to install Jenkins. For this, my team has put together

Thanks to Jenkins, every commit is automatically tested before it goes live

a simple tool that allows for the quick construction and deployment of disposable Jenkins servers: Itinerant Jenkins (github.com/ericmann/itinerant-jenkins). The tool can run either locally (powered by a Vagrant server) or on a remote machine thanks to some general-purpose provisioning scripts.

RUNNING LOCALLY

To run Itinerant Jenkins locally, just:

- Install Vagrant (vagrantup.com) and VirtualBox (virtualbox.org)
- Clone the repository from GitHub (github.com/ericmann/itinerant-jenkins)
- From within the newly-created folder, run `vagrant up`

The project will use Vagrant to download and create a new Ubuntu VM on your local machine. Then it kicks off an Ansible-powered provisioning system to install Jenkins. Jenkins can be configured to run tests for any framework in any language. Out of the box, though, the Itinerant Jenkins project gives you:

- PHP 5.6 (CLI)
- XDebug (xdebug.org)
- Composer (getcomposer.org)
- PHPUnit (phpunit.de)
- phpDocumentor (phpdoc.org)

Once the provisioner completes, you'll have a fully-functioning Jenkins server running on `http://jenkins.dev:8080`. Itinerant Jenkins pre-installs plugins to support PHP unit testing and code coverage reports, too!

RUNNING REMOTELY

Itinerant Jenkins also allows you to spin up a remote build server with ease. If you've cloned the repository locally, you've got everything you need already. Just find an Ubuntu server somewhere (Rackspace, Digital Ocean, Linode, and so on) and make sure that you have a user account with passwordless sudo capabilities.

Next, run the following command from your Itinerant Jenkins directory:

```
bin/deploy {user}@{host}
```

Itinerant Jenkins will use SSH to push the same Ansible provisioning tools used by Vagrant to the remote server and will kick off a remote build to install Jenkins and its tools for you.

Once the deployment script completes, you'll have a fully functioning Jenkins server running at `http://{host}:8080`.

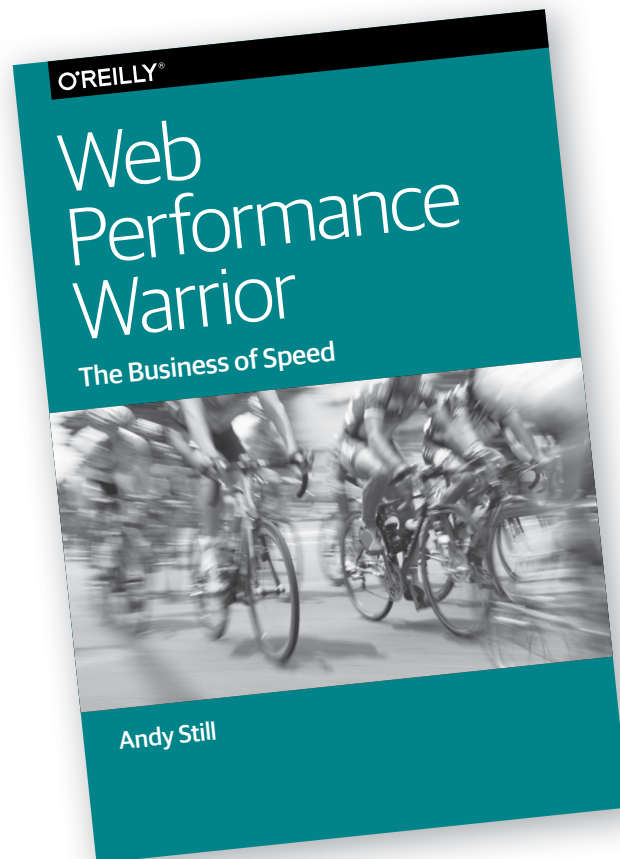
NEXT STEPS

Itinerant Jenkins is meant to be disposable, but Jenkins itself is indispensable. You can use the tool to quickly provision and deploy build servers anywhere, for any team, and for any project.

Once Jenkins is up and running, your next step is to gradually work through your build check list and shift the burden of each task off your team and onto your new teammate. Humans can and will forget steps – and break the build in the process.

Jenkins, though, runs every task without complaint every time without fail. Through continuous integration, you move one step closer to every developer's dream: only ever shipping bug-free code. ■

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O'REILLY®



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job: Software engineer

areas of expertise:

JavaScript and its various representations in the wild

q: what did you want to be when you grew up?

a: It was a toss up between Rainbow Brite and a unicorn

* HEAD TO HEAD

REACT VS WEB COMPONENTS

React and Web Components help you break your web app into independent modules. **Pam Selle** compares the two

REACT	WEB COMPONENTS
React (facebook.github.io/react) is a library from Facebook focused on 'the V in MVC'. In it, you build 'components' (reusable views tied to state) to make up your application. As the state changes over time, the component will update.	Web Components (webcomponents.org) are a group of standards that are commonly polyfilled (adding the functionality to non-supporting browsers) using <code>webcomponents.js</code> . These standards are custom elements, HTML imports and the shadow DOM.
GOALS AND APPROACHES	
A React application is composed of individual, encapsulated components. You define your component completely in JavaScript, and commonly use JSX (a syntax extension to JavaScript) to write HTML-like structures in your JavaScript, to be rendered on the client.	Think of Web Components as a folder containing a really small web page – in fact, just a single component. A web component includes its own markup, behaviours and API (JavaScript), and presentation (CSS), unaffected by the surrounding DOM, unless otherwise specified.
PERFORMANCE AND SIZE	
React outperforms other JS libraries on rendering performance, as it updates the DOM in a different way. Rather than 'dirty checking' to update views, it leverages a 'virtual DOM' to avoid the expense of constantly modifying a page's DOM.	While Web Components are available in Chrome and Opera, the polyfills are fairly large (around 163KB, according to the Polymer team). Polymer, a popular library from Google based on Web Components, does allow you to separate out modules you want.
COMMUNITIES	
React puts lots of energy into its community efforts, with conferences, newsletters and blogs. The release of React Native, which allows you to write a React application and ship for iOS (and soon Android) has generated a lot of excitement.	Being a standard, the closest thing to a central community around Web Components adoption is the Polymer library community, which is heavily tied to Google events such as I/O and the Chrome Developer Summit.
ARCHITECTURE	
Flux is the recommended architecture for React apps, consisting of the dispatcher, stores and views. You can use Flux as a framework itself. Alternatively, there are many frameworks that implement a Flux architecture for you, a popular example being Redux.	There's no standard architecture or organisation prescribed around Web Components, as it's a standard, not a library per se. There's opportunity for a framework or architecture to arise and develop a standard of best practices.
VERDICT	
While both help you modularise your views into smaller components, React is further along in community adoption, and as it's not a standard, it's not blocked by the question of browser support. Web Components are a standard to pay attention to and familiarise yourself with, but aren't necessarily production-ready due to the weight of the polyfills.	



FACT FILE

BETTER TOGETHER?

It's possible to use React and Web Components in combination. In fact, a presentation at React Conf in early 2015 suggested just that: in 'Complementarity of React and Web Components' (netm.ag/rota-273) Andrew Rota shows how you can use the two together.



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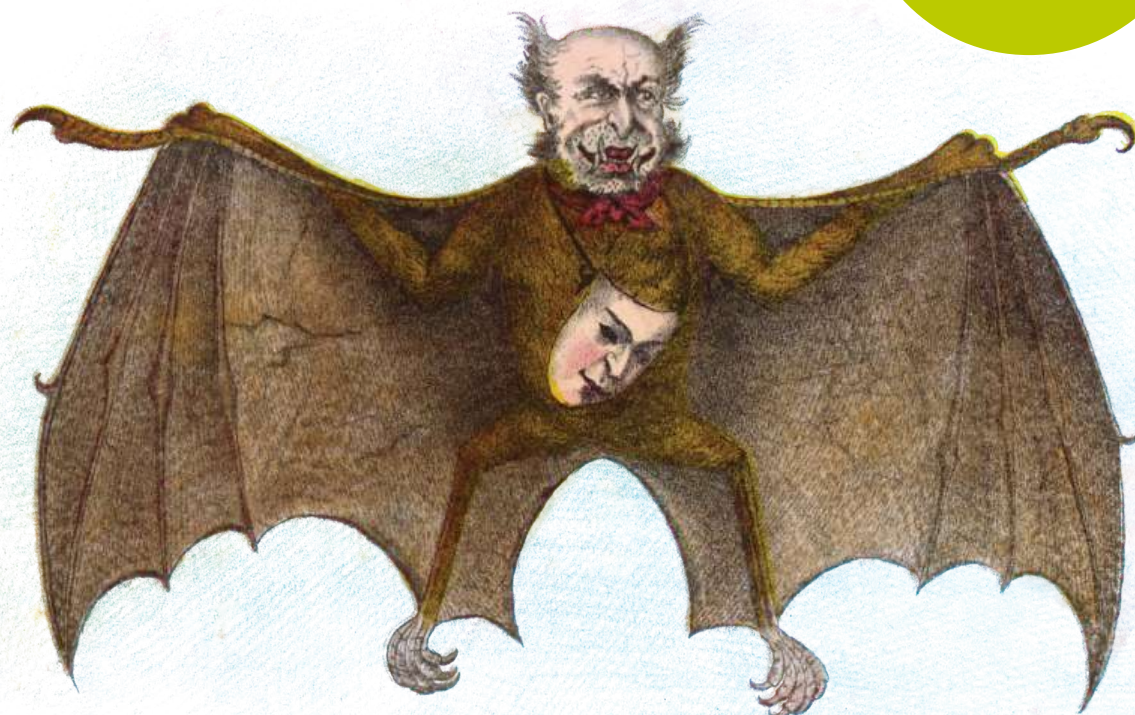
areas of expertise: Frontend development and photography

q: what did you want to be when you grew up?

a: Professional Teenage Mutant Ninja Turtle illustrator

View source

files here!

All the files you need for this tutorial can be found at netm.ag/RWDgit-273

* RWD

BUILD SITES WITH RESPONSIVE IMAGES

Eric Portis walks through the new markup designed to help devs build performant, responsive sites with content images

Progressively enhanced pages with responsive layouts transform themselves to meet myriad users' myriad needs. A thoughtfully built page serves up quality experiences to everything from feature phones to 5K screens, becoming as rich and complex, or as fast as lean, as its context dictates.

That's the theory, anyway. In practice, the number-one thing holding back an efficient, adaptable web has been content images. Images delivered via the `` element have traditionally been limited to a single `src`. Fixed in resolution, content and format, these `src`s are weighing down the responsive web.

Thankfully, new markup allows us to send different sources to different devices. This doesn't just solve the biggest performance problem on the responsive web, it also opens up new avenues

for experimentation in frontend engineering and visual design. Now that we've broken the tyranny of the single `src`, our images can respond to as many different contexts as we can imagine.

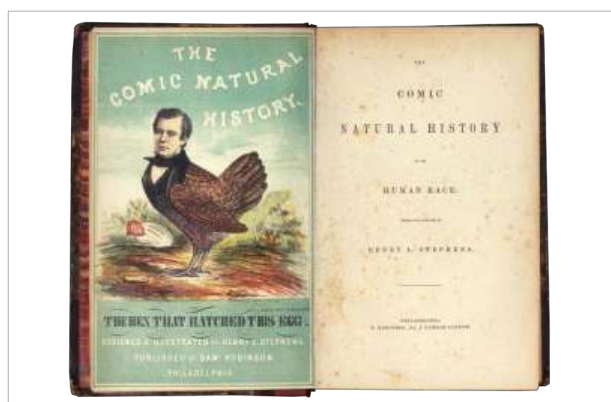
Let's dive in with an example. A *Comic Natural History of the Human Race*, penned by Henry Louis Stevens in 1851, was the first American book of caricatures and the first American book to feature chromolithographic printing. It's a weird, funny, and technically innovative book of images. Let's give it the web treatment it deserves (find a demo of what we're creating at netm.ag/demo-273).

WORKING WITH SRCSET

We'll start with the homepage, which contains fixed-width thumbnails of each illustration. We want these

VIDEO

Eric Portis has created an exclusive screencast to go with this tutorial. Watch along at netm.ag/rwdvid-273



Comic history Henry Louis Stephens' original *A Comic Natural History*

thumbnails to look crisp on hi-DPI (aka Retina) devices, and load as quickly as possible on standard screens. Until recently, we have had to pick one of these two contexts to optimise for. New markup allows us to have our cake and eat it too:

```

```

We leave our `1x` resource in the `src` and render a separate `2x` resource, which we mark up using a new attribute: `srcset`. You may be wondering, why the `set` part? Because we can stick as many resources in there as we please, separated by commas:

Unlike with `srcs`, new markup allows us to send different sources to different devices

```

```

Those little `2x`s and `3x`s sort of look like little media queries, don't they? Perhaps they're a kind of shorthand? Nope! Media queries make true or false statements about the browsing environment and provide the browser with an explicit set of instructions. `srcset` descriptors simply describe resources. When we put a `2x` next to a resource, we're not giving the browser an instruction about when or whether to load it. We're simply stating it has an 'image density' of `2x`.

* IN-DEPTH

BROWSER SUPPORT AND FALLBACKS

+ Thanks to the extraordinary efforts of developer Yoav Weiss, Blink-based browsers were the first to support responsive image features. Chrome (v39) and Opera (v30) began shipping with full support last autumn, and support trickled down into Chrome for Android soon afterwards. No version of the stock Android browser (which shipped with Androids <5) supports the markup.

Firefox

Firefox 38 began supporting the new syntax in May of this year. Mozilla's implementation contains one notable flaw: it doesn't yet re-evaluate responsive images in response to resize events. A patch has landed in the beta channel, and should ship in version 42 in November 2015.

Safari

Mobile and desktop Safari have supported `srcset` with `x` descriptors since version 7.1 and version 8.3 respectively; support for `w` descriptors will land this autumn after the release of Safari 9 and iOS 9. Apple have made no official statements about `picture` but there are positive signs.

Internet Explorer

No version of Internet Explorer supports the new markup, but Microsoft's just-released Edge browser supports `x` descriptors, and both `w` descriptors and the `picture` element are officially 'in development'.

Non-supporting browsers

All the new features build upon our familiar friend ``. This ensures that non-supporting browsers will simply ignore the new stuff and load the `` same as they always have. If, however, you want to polyfill support for the new features, you're in luck: `Picturefill.js` is a superb, actively maintained, thoroughly-tested 6Kb library that'll do exactly that.

It's not without its gotchas though – because browsers start loading images before they run any JavaScript, when using `Picturefill` you'll have to either omit `srcs` or risk burdening users with double downloads. Find out more at netm.ag/picturefill-273.

★ FOCUS ON

THE MEDIA ATTRIBUTE

On the Comic Natural History site, we use `picture` and `source` for their type-switching prowess. They have another trick up their sleeve, though: the `media` attribute.

```
<picture>
  <source media="(min-width: 20em)"
    srcset="full-image.jpg" />
  
</picture>
```

`srcset` lets us supply the same image at a range of resolutions, and gives the browser the leeway to choose whichever resource it wants. But sometimes we'll want to supply resources with alternate content, and make sure that those alternates are always loaded in certain browsing environments – no ifs, ands or buts about it.

For instance: maybe we want to supply a black-and-white version of an image for printing, or a cropped version for small screens. That's called art direction, and that's what the `media` attribute is for. `<source media>` works just like `<source type>` – the first `<source>` that has a `media` attribute that matches the current environment wins, and its `srcset` is sent to the `<picture>`'s ``.

Today, `media` attributes are mostly being used to send alternate crops, but I believe we've only just begun to explore what can be done with them. In 'When Responsive Images Get Ugly' (netm.ag/ugly-273) Taylor Hunt uses `media` to replace animated GIFs with poster images on ereaders whose slow screens turn the GIFs to mush. In another example, he alters images based on the device's ambient light sensors, so that a floor plan remains legible and easy-to-read in both bright sunlight and at night. Exciting stuff!



Focus in Alternate crops enable users to focus on the important part of an image at any screen size

► What's an image density? I'm glad you asked! It's the number of pixels a resource has, relative to its layout size. More precisely: Resource width (in pixels) ÷ the ``'s width on the layout (in CSS px) = image density (e.g. 2x). So if we have a 640×480 resource and we cram it into a 320px-wide box on our layout, it has a density of 640 ÷ 320 = 2x.

We can only know an image's density when we know its layout dimensions. And we can only know an image's layout dimensions when they are fixed. If an image is fluid and styled relative to its container (with, say, a `max-width: 100%` rule), simple 1x / 2x descriptors won't suffice.

W DESCRIPTORS

This brings us back to our example. The illustrations on our detail pages are fluid. Once the viewport shrinks below 640px wide, they scale down along with it. We deal with this variability using new markup to split image density into its two component parts: resource width and layout width.

We tell the browser the width of our resources using the `w` descriptor. And we'll specify the `img`'s layout width using the `sizes` attribute.

```

```

`w` descriptors are easy. How wide is the resource? Put a `w` after that number and you're done. 'small.jpg' is 320×431, so we mark it up as 320w; 'medium.jpg' is 640×862, so it gets a 640w, and so on.

SIZES

`sizes` answers a different question: how wide will the image be on the layout? `sizes` takes CSS lengths, like 10em, 500px, or (if you fancy) `calc(80vw - 30px)`. In the previous example, I've used a `sizes` value of 100vw, stating that the image will occupy 100 per cent of the width of the viewport.

What do browsers do, upon encountering this markup? They convert the `sizes` value to CSS px and work out the image density of each resource in the `srcset` accordingly. On a 320px-wide viewport, our 640w source would have an image density of 640w ÷ 320px = 2x. But on a 480px-wide viewport, that same image would only have 640w ÷ 480px = 1.333x.

Browsers determine these image densities on the fly. And then they do something wonderful: they pick whichever resource they want to! Usually 1x screens will get something like a 1x resource and 2x screens

will get something bigger. But browsers are not bound by any particular picking logic. If a browser knows it's running on a slow connection, or perhaps if a larger-than-necessary resource is already in the cache, that browser is free to choose a different resource than it might have otherwise.

Back to our example. `100vw` doesn't quite capture the dynamic width of the illustrations on our detail pages. They have a `width` of `100%`, but the figures that house them have a `max-width` of `640px`. How do we tell the browser that?

`sizes` lets us supply multiple values in a comma-separated list and tell the browser which length to use, based on media conditions. If the layout width of our image changes once the viewport reaches a certain size, we can encode that information in `sizes`, like so:

```

```

Sizes lets us supply multiple values in a list and tell the browser which length to use

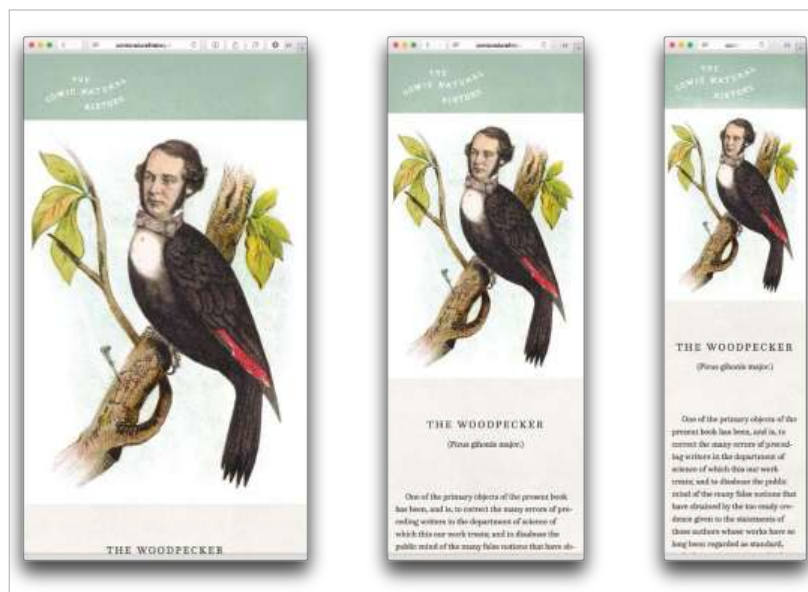
This says: if the viewport is at least 640px wide, the image will be 640px wide. If it's not, the image will be 100vw wide. Our `sizes` now conveys our image's dynamic layout width exactly.

PROGRESSIVE ENHANCEMENT

And with that, we've marked up all our images so they'll scale efficiently in response to both variable screen densities and their own dynamic layout widths. There is, however, another dimension that we can adapt across: format support.

Let's say we want our images – currently trapped within jarringly bright white boxes – to appear as if they've been drawn directly onto the pages' paper backgrounds. To achieve that effect, we need to encode them with a format that supports transparency.

PNG does, but it isn't very good at compressing images with a lot of texture and subtle gradations – if we used PNG, the file-sizes would be prohibitively large. What's a modern web developer to do? I'll tell you what: progressively enhance!



Google's WebP format compresses our images well and supports transparency, but it's only supported in Blink-based browsers like Chrome. That's OK by us. We'll use new another new markup pattern (borrowed from `<audio>` and `<video>`) to send WebPs to browsers that support them, and JPGs to everyone else:

```
<picture>
  <source type="image/webp"
    srcset="small.webp 320w,
    medium.webp 640w,
    large.webp 1280w"
    sizes="(min-width 640px) 640px, 100vw" />
  
</picture>
```

Browsers send the `srcset` of the first `<source>` whose type they support to the ``. Thus, the (required) `` is still the thing that we see on the page. We're progressively enhancing it by wrapping it within a `<picture>`.

RESPONSIVE RESULTS

Our images now adapt across three dimensions: screen density, viewport width and format support. We've broken the tyranny of the single `src` in order to mark up images that are as responsive as the pages that house them, taking advantage of high-resolution screens and cutting-edge formats without sacrificing performance for those less capable. Huzzah! 🎉

Size down The illustrations on our chapter pages shrink along with the viewport

BROWSER SUPPORT SRCSET

Desktop	Mobile/tablet
48	44
33	–
9	9
43	44

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* SVG

ICON FONTS

Seren Davies outlines the problems icon fonts can cause for accessibility

> Do you use icon fonts on your site? Are you aware these cause problems for some of your visitors? Well, I'd like to tell you about these visitors and some of the challenges they face with icon fonts, and suggest an alternative that benefits them and many others.

According to the NHS, roughly 10 per cent of the UK population has some form of dyslexia. Dyslexia is a very broad term, and affects people in a number of different ways. It can cause sufferers to have trouble reading, but it can also affect writing, spelling and even speaking. Some people suffer only mildly, while others have more severe symptoms.

DISTINGUISHING CHARACTERS

I am part of that 10 per cent, and use various strategies to help with my spelling and reading. One strategy is to change my browser font to OpenDyslexic using Chrome's Font Changer (netm.ag/changer-273). OpenDyslexic is weighted to make it easier to distinguish similar characters from one other. This weighting also helps dyslexics who experience inverted letters or 'flipping'.

Overriding a page's font produces problems on some sites. I'm often greeted by empty squares instead of icons because there's no equivalent glyph in OpenDyslexic. GitHub is a case in point.

Icon fonts don't only have a negative impact on people with accessibility needs: Opera Mini's 250 million users won't see them. Plus, as Etsy found, even in mainstream browsers things occasionally go wrong – last year, iOS Safari couldn't find the relevant glyph for the half-star in Etsy's reviews, so it substituted in a horse.

Some suggest font ligatures and/or ARIA roles can make icon fonts more accessible. While they may help people who use screen readers, they don't really help people like me. Using a ligature (such as an icon of a house for the word home) might enable a screen reader to say something meaningful, but it will probably alter the page layout and force users to read a word instead of recognising an icon, generally making life harder for dyslexics.

SUBSTITUTING SVG

Given these issues, should we really be using a font for icons when SVG images will give visitors a better experience? There are several ways to use SVG images: `` element, CSS background image and the inline SVG element to name three. This perhaps makes them more confusing at first, but they offer the same benefits as icon fonts, and more.

Just like icon fonts, SVG images scale, are pixel-density independent, and when used inline can be styled using external CSS. Unlike icon fonts, they support multiple colours, animation and the `<title>` and `<desc>` attributes, helping make them accessible for screen readers too. Perhaps most important to dyslexic users like me is that we actually get to see the icon when the font fails to download or we override the default font.

We can use the `<symbol>` and `<use>` elements to build reusable icon systems. Sara Soueidan (netm.ag/soueidan-273) and Chris Coyier (netm.ag/coyier-273) have written about this in more detail and it's well worth reading their articles.

Some older browsers don't support SVG so will need a fallback. A good option for this is Grunticon from the Filament Group, which creates PNG images for those browsers that don't support SVG.

Next time you're considering using icon fonts think about how visitors will be affected by your choice. Maybe SVG might give them a better experience instead. ■

* PROFILE

Seren (@ninjanails) is studying software engineering at Oxford Brookes, and currently on a placement at Incuna. She's a dyslexic who's passionate about accessibility and also enjoys nail art



ABOUT THE AUTHOR

RICHARD BURTON

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job: Designer

areas of expertise:

Sketch, Framer, Xcode

q: what did you want to be when you grew up?

a: I hoped I could fund my addiction to kitesurfing by tapping on a laptop near the sea



* SKETCH

CUSTOMISE SKETCH WITH PLUGINS

Plugins enable you to personalise Sketch. **Richard Burton** explains how to find, download, use and create them

> One of the things that makes Sketch such a powerful design tool is that it's scriptable. The team at Bohemian Coding – the people behind Sketch – enable users to customise the app with plugins, so they can focus on a core set of features that will be useful to everyone.

If you haven't touched the plugins drop-down in the menu bar before, my hope is that this article will encourage you to try some out. If you have a few plugins installed and have thought about making one of your own, you can skip to the end to learn how to start hacking away.

A plugin contains one or more files written in CocoaScript, which is a variation of JavaScript that can interact with the Sketch Mac app. These scripts can access and manipulate all the layers, shapes,

text and artboards in your Sketch file. They can also reach the app's internals and the operating system's frameworks.

This allows you to write a range of plugins, from simple ones that can (for example) move shapes 100 points at a time, to more complex ones that transfer designs to collaboration tools like Zeplin, Relay or InVision.

The Sketch plugin directory (netm.ag/directory-273) is a central repository that links to lots of other plugins hosted on GitHub. When someone wants to share their plugin with the world, they can submit a pull request and Ale Muñoz, a developer at Bohemian Coding, will check it over and add it to the directory. The team behind Sketch have also curated a list of great plugins, which you'll find at netm.ag/BC-273.

VIDEO

Richard Burton has created an exclusive screencast to go with this tutorial. Watch along at netm.ag/pluginvid-273

INSTALLING PLUGINS

Individual plugins are bundled up into files that have the extension ‘.sketchplugin’. To install them, simply double-click on the file and it will be moved into the plugins folder. You can find this folder by going to **Plugins > Manage plugins ... > [gear icon] > Show plugins Folder**.

Some of the projects you’ll find on GitHub will actually be collections of plugins within a folder – for example Sketch Commands ([netm.ag/sketch-commands-273](https://github.com/netm-ag/sketch-commands)). In this, there are lots of plugins divided into folders based on the kind of operations they perform. These various plugins help you quickly do things like capitalise a text layer or increase a shape layer’s width by 100 points at a time. For collections of plugins, you’ll need to download the zipped folder from GitHub, find your plugins folder, and drag the unzipped folder in there.

Sketch Beta and the main Sketch app each have their own plugins folder, so you’ll need to copy the

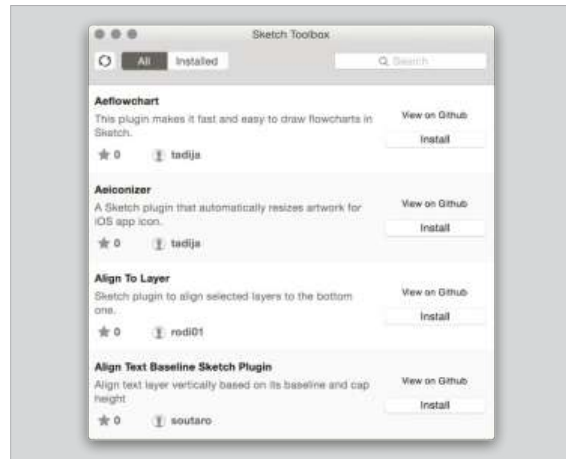
Free Mac app Sketch Toolbox makes it easy to download and install new plugins

plugins and collections to both places. This is a bit of a pain, which is why Sketch Toolbox (sketchtoolbox.com) was created. This is a free Mac app that makes it easy to download and install new plugins.

Before it was built, users had to download the scripts from GitHub and install them themselves. If you were running the beta version of Sketch alongside the normal release, you’d have to make sure the plugin was installed in both places. Now



Drop-down The plugins drop-down contains all the installed plugins. You can run the script from this menu or use a keyboard shortcut



Sketch Toolbox This free, community-made app makes downloading and installing new plugins easy

you can simply search for a plugin from Sketch Toolbox and hit ‘Install’.

The latest version of Sketch has a full plugin manager built right into the app. You can find this at **Plugins > Manage Plugins ...**. If you click on ‘Get plugins ...’ in the plugin manager you’ll be taken to Bohemian Coding’s plugin directory.

OTHER PLUGIN SOURCES

Nearly all the most popular plugins are listed in the plugin directory. However, not all developers submit their work to the directory after publishing them on GitHub, so it doesn’t contain everything. If you can’t find what you’re looking for in the directory, there are a few other things you can try:

- Google ‘[what you want the plugin to do] + Sketch plugin’. This will often turn up something useful
- Ping Ale Muñoz on Twitter (@bomberstudios). He’s really great about letting you know if there’s something that fits your needs, and sometimes he’ll even make you a custom plugin
- Go to netm.ag/request-273, and suggest your plugin idea
- Visit sketchappsources.com/plugins.html, awesome-sket.ch or sketch.land. These sites all list useful plugins and highlight new ones

CREATE YOUR OWN

If there’s something you want Sketch to do and you can’t find a plugin that does it, I’d encourage you to dive in and try and hack something together. If you’ve found a plugin that does something similar to what you’re after, it can be much quicker to use that code as a starting point for your idea.

For example, when I wanted to make a plugin that moved a selection of layers 100 points at a time, I looked at the code of plugins that were moving layers in different ways, and re-purposed it.

★ FOCUS ON

REALLY USEFUL PLUGINS

These are three of my favourite plugins. I use them all the time to help me with my work.

Toggle Locked Layers

github.com/ribot/sketch-toggle-locked-layers

With this plugin installed, I use the keyboard shortcut 'ctrl+cmd+L' to quickly unlock all the locked layers within an artboard, tweak something, and then lock them back up. It's a lot quicker than scrolling through the layer list, guessing which layer you want, and unlocking them one by one until you find the right one.

Relabel Button

github.com/kenmoore/sketch-relabel-button

This is a fantastic tool for quickly changing the size of a button based on the length of the text it contains. It treats a text layer and a rectangle within a group as a button. To change the label, just select the group and hit 'cmd+K', which will bring up a prompt to change the text. It'll then resize the rectangle based on that input.

Data Populator

github.com/preciousforever/sketch-data-populator

Whenever you're designing an interface with text and images, it can be hard to account for the variable length of different data types. For example, email addresses and names can range from two to 50-plus characters. This plugin allows you to import data from a JSON file on your machine and update the text and images in your design to see how it looks. With plugins like this, it won't be long before you'll be able design against a live API instead of an arbitrary set of dummy data. If this interests you, I highly recommend checking out netm.ag/bridge-273.

► To start writing your own plugin, click on **Plugins** > **Custom Plugin...** or hit 'ctrl+Shift+K' to bring up the custom plugin editor. In here you'll see some example code written in CocoaScript:

```
log('This is an example Sketch script.');
```

```
var documentName = context.document.displayName();
log('The current document is named: ' + documentName);
```

```
var selectedLayers = context.selection;
var selectedCount = selectedLayers.count();
```

```
if (selectedCount == 0) {
  log('No layers are selected.');
```

```
} else {
  log('Selected layers:');
```

```
  for (var i = 0; i < selectedCount; i++) {
    var layer = selectedLayers[i];
    log((i+1) + ' ' + layer.name());
```

```
  }
```

```
};
```

Plugins are a great way to shape your tool and make your iteration process faster

If you hit Escape, the custom plugin editor will slide upwards and away. Quickly select a few layers, hit 'Ctrl+Shift+K' again to bring it back, then hit Run once again.

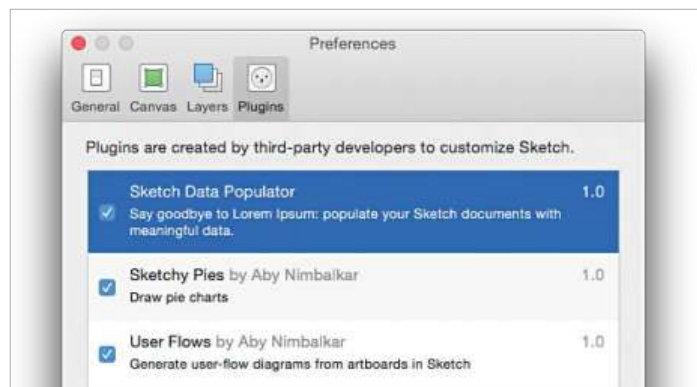
Your output should look something like this:

```
This is an example Sketch script.
The current document is named: Untitled
Selected layers:
```

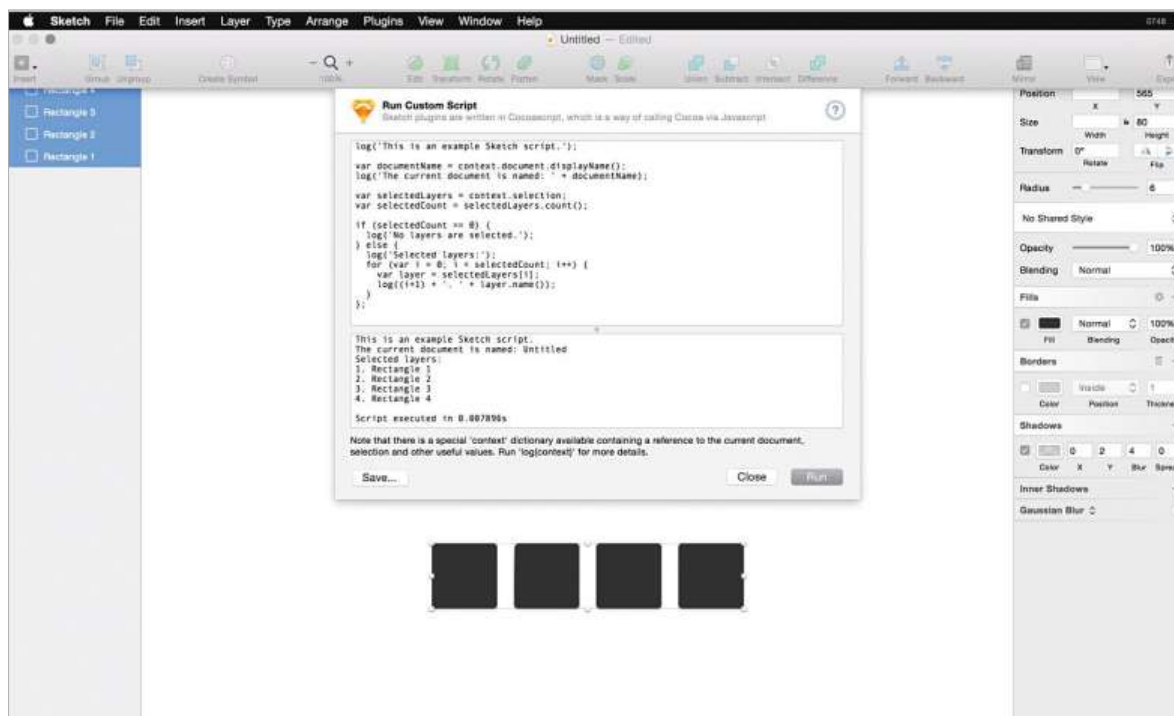
```
1. Rectangle 1
2. Rectangle 2
3. Rectangle 3
4. Rectangle 4
```

```
Script executed in 0.007364s
```

Let's unpack this a bit by looking how the plugin is functioning. The purpose of this plugin is to output a list of the layer names to the console. The first three lines of code output some basic text and show you how the `context` variable contains the document's name. The `if` statements checks `context.selection` – which is defined above as the `selectedLayers` variable



Managing plugins The new plugin manager in Sketch



Plugin editor The custom plugin editor and console that is included with Sketch

– to see if it's empty. If it's not, the script will iterate over all of the layers in the selection and log their names in the console.

It's surprising how much you can do with just a few lines of code. Let's start off by looking at a tiny plugin I wrote to remove the shadows from any layers I've selected using a keyboard shortcut:

```
//Disable Shadow (control option s)
var selection = context.selection
for (var i = 0; i < [selection count]; i++) {
  var layer = [[selection objectAtIndex:i] style]
  [[layer shadow] setEnabled:0]
}
```

The first line is a comment with a purpose: it defines the combination of keys that will activate the plugin. The code loops over all of the currently selected layers, finds the shadows for each layer, and then removes them.

Try pasting this code into your custom plugin editor and then hitting 'Save...'. You can name the script and it will be saved to your plugin folder. Once there, you can open it up with your favourite text editor.

LEARN MORE


There are lots of great resources out there to help you learn how to make your own Sketch plugins. I highly recommend the following places:

- The developer section of Bohemian Coding's site (netm.ag/dev-273)
- Andrey Shakhmin's Sketch Plugins Cookbook (netm.ag/cookbook-273) – An introduction to plugin development from one of the most prolific plugin creators in the community
- The Sketch plugins developer mailing list (sketchplugins.com)
- Plugin snippets for plugin developers (netm.ag/advanced-273) – A more advanced post with useful, frequently used snippets of code for plugins

CONCLUSION

Sketch is a great tool to help you get ideas out of your head and onto a screen, but it can't do everything. Plugins are a way to bridge that gap and let you shape the tool you use to get your work done.

Although the limiting factor for great work is never how quickly you can design, there are always time constraints for important projects. The goal here is to make your iteration process faster so you can experiment with more ideas.

My hope is that the next time you find yourself doing something repeatedly that doesn't seem necessary, you'll search for a plugin and play around with it, and find a simpler way to achieve your task. If you don't find one that fits your needs, it'd be great if you have a go at building your own plugin. If you do, please share it with me on Twitter @ricburton – it'll make my day! 



Alot is a collection of plugins Richard Burton has written for himself, which he uses hundreds of times a week: github.com/ricburton/alot



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CANER UGUZ

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Job: Developer, Center for Open Science

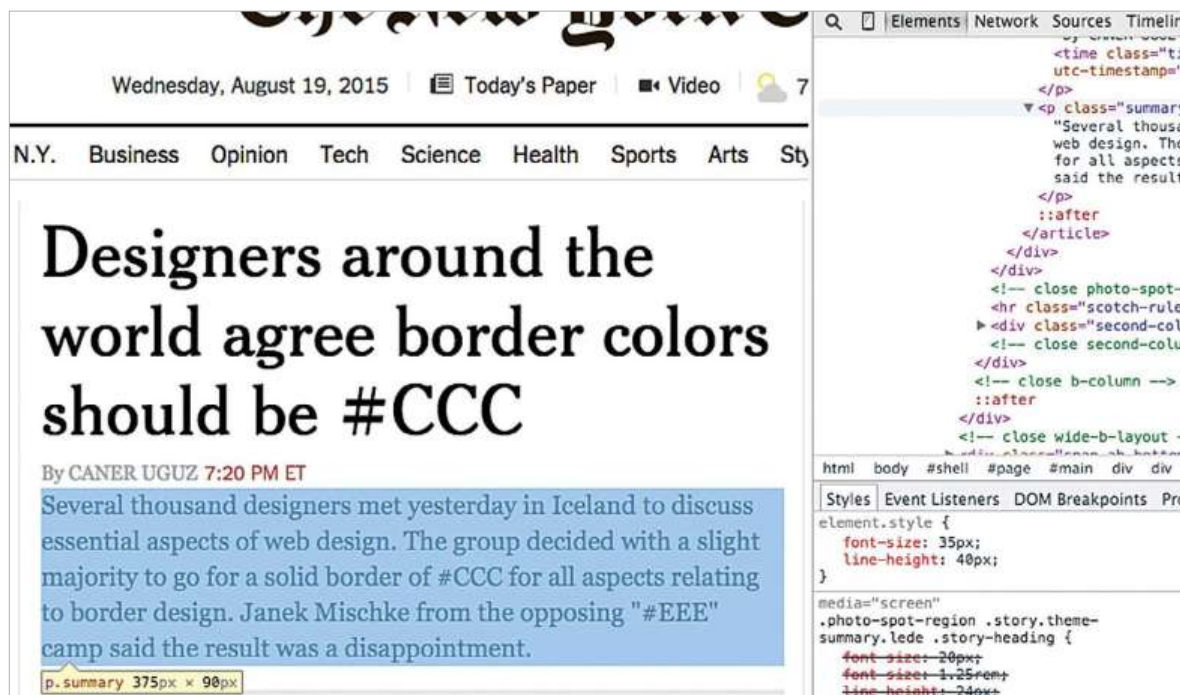
Areas of expertise:

HTML, CSS, JavaScript, frontend development

q: what did you want to be when you grew up?

a: Sherlock Holmes.

Being a detective sounded amazing when I was eight, plus there is the hat



* CSS

LIVE-CODE SITES WITH CHROME DEV TOOLS

Caner Uguz shows you how to use Chrome Developer Tools' CSS and HTML features to try out layout possibilities

> You have been there before. After several long days of work, you are sitting with a customer and he is pointing to the colour of the border and asking you if it could be a shade darker, or maybe a little more blue? You take your vague instructions and go back to the drawing board. Or maybe you are a frontend developer and the layout of the page does not look quite right with the actual live data you are viewing. How will you know where the problem is? Maybe you will go back to the code, make changes, save, refresh the page, upload to your test server and test it with that data again.

What you need is a CSS and HTML editing tool that gives you immediate previews and works right in the browser environment. Chrome provides a large number of tools for developers, and some of them are designed to address design-related

issues such as these. In this tutorial we'll go over some of the features of this set of amazingly helpful tools.

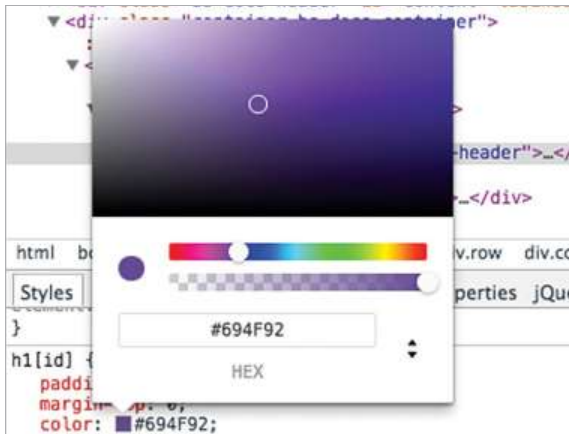
To use the Chrome Developer Tools, open your website in a Chrome browser and click the hamburger menu icon in the top right. Chrome hides this feature under **More Tools > Developer Tools**. Clicking this will open a panel on the side or bottom of your window. You can also use **alt+cmd+I** to open it, or right-click on any element on the page and select 'Inspect Element' from the menu.

When you open the Dev Tools for the first time it may look crowded, but we're going to work with a few specific panes. The HTML pane includes the HTML source code. You can edit, move and remove HTML elements directly in this pane. The style pane includes all the style-related information.



VIDEO

Caner Uguz has created an exclusive screencast to go with this tutorial. Watch along at netm.ag/chromevid-273



Colour picker Move your mouse outside the colour picker to match any shade on the page

EDITING STYLES

The style pane includes all CSS styles that apply to the element that is currently selected. If you opened the Dev Tools by right-clicking the element, that element will be selected. If you opened it using another method, the body tag will be selected.

Here you can see what styles have been applied to your element from anywhere that has influence on the element. Take a look at the style rules listed (scroll all the way down). Here you will observe a few important points.

The style pane includes all CSS styles that apply to the element that is currently selected

Order of application

The style rules you are looking at are ordered based on the specificity of these styles. This is immensely useful because you can see which rules override the others. In most troubleshooting cases, if your style is not being applied you need to look here to see if it's being overridden by another rule.

Colour picker

Whenever a colour is involved, the style pane will show a small box with that colour. Click the box to open the colour picker, which you can also use to adjust opacity. For extra wow-factor, move your mouse outside the colour picker. You will see that your pointer is able to select any colour within the browser, making it easy to match colours in your design.

* FOCUS ON

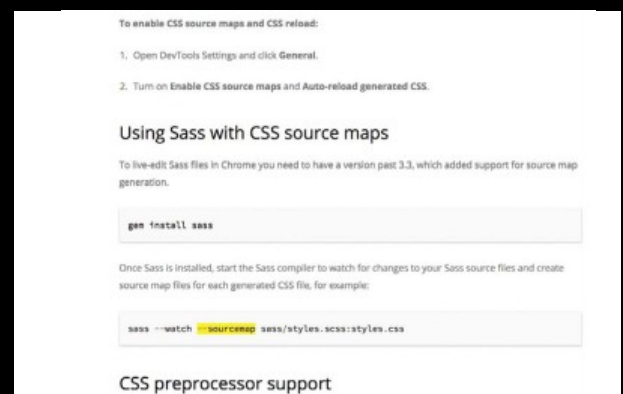
WORKSPACES

+ In general, the changes you make to the CSS and HTML files are not saved to your actual development environment files. It is however very possible with Dev Tools to map these changes directly to the files you actually work with. This way, you don't need to mess around trying things out in Dev Tools and then going to your text editor to make the changes.

To achieve this, you need to add the files you're changing to the workspace before you make your edits (one reason is that Chrome will ask you to restart your Dev Tools). When you click the Sources tab in Dev Tools you will see a list showing your folder structure on the right. To add a file to your workspace simply right-click and select 'Map to File System Resource'.

After you add files or folders, you will notice that you can directly edit files and save. This time when you refresh the page, your changes will persist because you have in fact saved the style and HTML changes to your development files.

Many web designers and developers now use CSS preprocessors like Sass or Less. Luckily Dev Tools support mapping to these files as well, so you can continue to make direct edits if you use preprocessors. You can learn more at netm.ag/preprocessor-273.



Sass, Less and Stylus Thankfully, Chrome's Developer Tools will still work if you're using a preprocessor

★ IN-DEPTH

FURTHER READING

Here are some resources that will set you on the path to becoming a Dev Tools expert.

Code School

codeschool.com/courses/discover-devtools

If you want to learn more about the topics covered here and get more serious about Dev Tools by exploring other features, try out the free course from Code School. It contains videos that are easy to follow and separated into different features. The first course is Elements, which will refresh a lot of the material covered in this tutorial. For designers the chapters on Elements and Sources might be all you need, but if you do some JavaScript you should take a look at the Console and Debugging chapters as well. The rest of the chapters are for more advanced users who run and maintain frontend applications.

Chrome Official Documentation

developer.chrome.com/devtools

Dev Tools provide an amazing array of useful features and there is no better place to check the details than the official docs on Chrome. This is a free resource that includes details about functionality, shortcuts and many screenshots. One of the downsides is that this isn't designed to be a step-by-step teaching resource. However, it's a good source of detailed information that you can use alongside this tutorial and other resources.

Advanced Technical Information

If you are interested in more code-related aspects of the Dev Tools and have some time to kick back and watch some video sessions there are a few that should be on your list:

- Secrets of The Chrome Developer Tools (vimeo.com/53073654) – A 40-minute overview and talk about lesser-known features
- Wait, Chrome Dev Tools Could do That? (netm.ag/wait-273) – This video is a great advanced course for frontend developers. It talks about analysing the performance of your website
- Chrome Dev Tools Revolutions 2013 (netm.ag/revolution-273) – In this official Google I/O conference session, Paul Irish goes through some features of Dev Tools, including Sass preprocessing, workspaces and other tidbits

```
.h1, h1 {
  font-size: 36px;
}

.h1, .h2, .h3, h1, h2, h3 {
  margin-top: 20px;
  margin-bottom: 10px;
}

.h1, .h2, .h3, .h4, .h5, .h6, h1, h2, h3,
{
  font-family: inherit;
  font-weight: 500;
  line-height: 1.1;
  color: inherit;
}
```

Style rules You can see all the applied styles and edit them directly in your browser

► Enable/disable

As you hover over rule sets you will see that Chrome shows checkboxes next to the styles. It is possible to click on these to enable or disable the styles. You'll find this is much easier than removing a style and then trying to remember what it was when you want to enable it again.

Edit styles in place

Dev Tools has in-place editing, which means you can click on any rule and it will turn into a box with the

The HTML pane is editable in place. Here you can change the page's layout structure

contents highlighted. You can then edit any part. As soon as you make a change to a number or rule, the results will be shown on the page.

Add new rules

You can create new rule sets by clicking on the 'plus' (+) icon in the top-left of the styles pane. This will create a new rule set with as specific a selector as possible. You can then add rules or change the selector itself.

Map to source

For each rule set you will see a file name in the top-right corner (e.g. 'base.css'). This tells you where that rule is originally defined so you know where to make your changes. These file names are links that will take you to the file itself within the Dev Tools, where you can edit the rules.

These tools provide great insights and information, but you are really here to edit these styles and see your changes live. There are several ways you can do that.

The box model

When you open the styles pane you will see the element represented with a box that has margin, border and padding information displayed for all sides. You can check this visual representation to make sure your spacing is accurate, and even double-click to change those values in place.

Show inherited properties

Just below the box model visualisation you will see a section that lists all calculated rules for that element. Click on the checkbox titled 'Show Inherited Properties' to make the style pane show rules that are not set but inherited from the defaults. This may be vital to understand where your element is actually taking its values from.

EDITING HTML

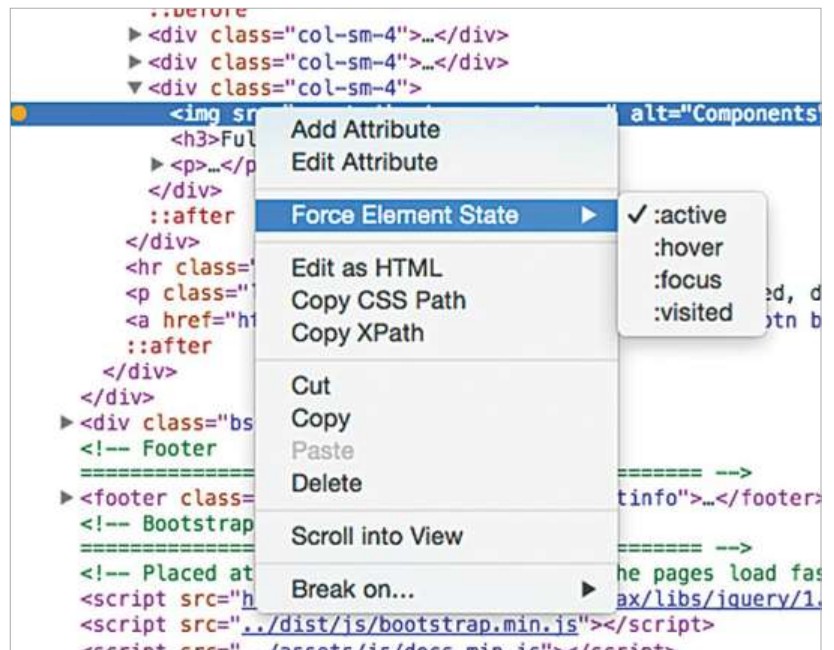
So far we only looked at the style pane. However the HTML pane is not just the static source code. It is in fact editable in place, just like the style rules. Sometimes adding or changing CSS is not enough and you need to change the layout structure of the page or add class names to certain elements. There are several handy alterations you can make to existing elements on the page.

Select elements

You can click through the structure of the HTML code to open and select elements, but the faster method is to click on the magnifying glass icon in the top-left to turn on inspect mode. You can then hover over elements to highlight them, then click on them and they will show up in the HTML pane.



Device Emulation There are tools that enable you to experience your design through the viewpoint of a mobile device



Force element state With the HTML pane you can force states such as hover or active. Simply right-click an element and select 'Force Element State'

Move or delete elements

You can drag and drop any of the elements into any other position on the page. To remove an element, simply select it and hit the Delete key, or right-click and select Delete. If you delete something by mistake you can undo with standard undo commands.

Edit HTML

If you have a large number of edits to do on an element's HTML code, you can simply right-click on the element in the HTML pane and select 'Edit as HTML'. This will give you complete freedom on how to alter the HTML.

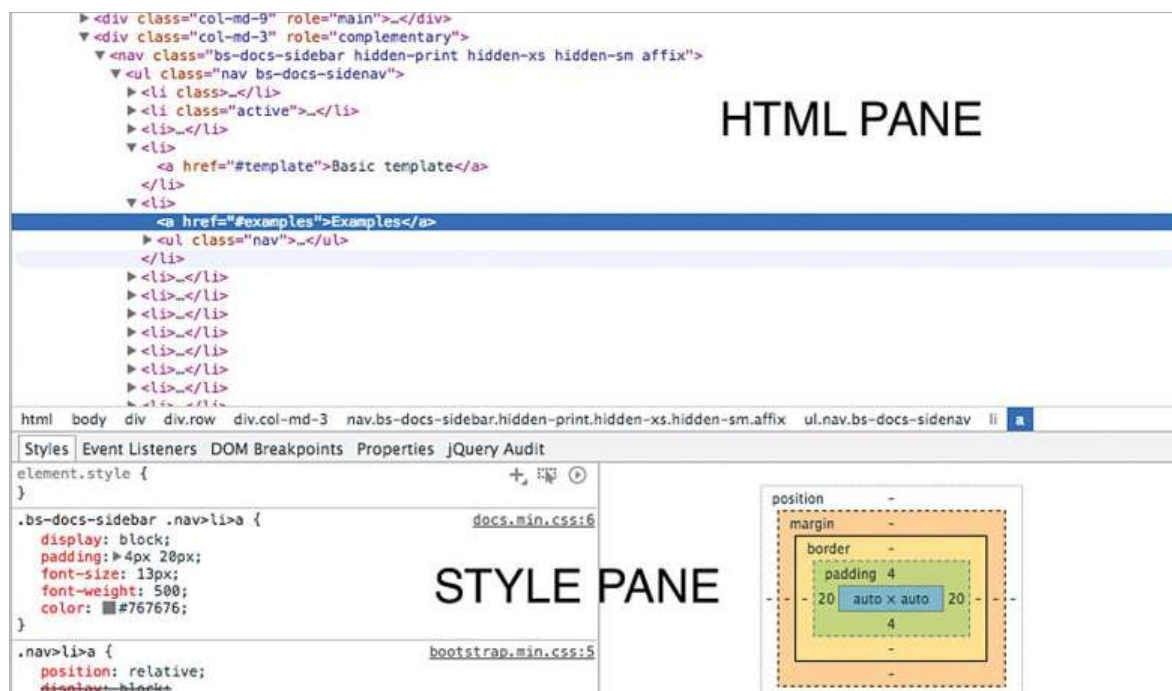
Force states

Perhaps one of the most useful features of the HTML and style panes is that you can force states such as hover or active. This makes sense because hover styles, for instance, won't appear in the style section unless the element is forced to that state.

In the HTML pane, right-click an element and select 'Force Element State'. An orange dot on the left will indicate that it's showing a state, and the style rules will update to show the pertinent rules for that status.

EMULATING MOBILE DEVICES

Until a short time ago, you could work with your CSS/HTML and call it a day, but with the proliferation of different device types available to your audience, you need to make sure your website can be viewed everywhere. I don't have space to go into depth on



Chrome Dev Tools Here you can see the main panes that allow you to edit HTML elements and CSS styles

- mobile-ready websites here, but your friendly Dev Tools has a cool tool that will help you test your website for the majority of these cases.

Device mode

To the left of the 'Elements' tab at the top of the Dev Tools menu, there is an inconspicuous icon that shows a mobile phone. If you click it you will see your regular website view has transformed into a much smaller view (you may need to refresh for this change to take effect). You are now in the device mode.

From the device selector at the top of you can change which device is being emulated. You can also switch orientation from the device menu, or enter custom sizes. One of the important considerations here is that your window width should be adjusted to reflect the device, which immediately gives you clues about your responsive styles.

You might be thinking that simply making your browser window narrower could also have this effect, but device mode does a few more things as well. Here, user agent information and pixel density changes to reflect the device being emulated. Your hover effects will stop working, since mobile device inputs don't have hover.

You will however have touch action emulations and mobile scroll bars. All these will help you edit your CSS or add conditional CSS that is appropriate for mobile devices. The best part is that you don't

need to borrow a bunch of phones and tablets from friends to do it!

CONCLUSION

We've only looked at two panes so far, and we have already covered a lot of features of the Chrome Dev Tools. I'm sure you are thinking of times in the past you could have used these techniques, or considering their potential for future projects. I recommend using these tools daily to save time and try out ideas before committing to writing any code.

There are two approaches you can take which will help you improve how you work with these tools. If you are starting a new project, code the HTML first and then simply play with the rules and first draft of the HTML through the Dev Tools. You will see that the instant application of your changes will save a lot of time as you refine your project.

Conversely, if you are fixing something or making edits on an existing project, before you go through the code look at the styles being applied and the HTML syntax and see if you can troubleshoot on Dev Tools first. Then try out your initial instincts for possible solutions. You will find that most often this will lead you to the correct fixes.

One final thing: you can quite easily prank your friends with screenshots from reputable online resources. I'll leave it to you to figure out how the Dev Tools can serve this fun purpose; but please use responsibly.



Chrome Dev Tools' device mode has more features than we could cover here. This five-minute video from Google gets into some of the details: netm.ag/device-273

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* ACCESSIBILITY

ACCESSIBILITY CHAMPIONS

Jamie Knight debunks the myth that accessibility is a dark art, and shows you how you can build it into your projects

> Accessibility has a reputation for being a black art that's best left to specialists. Large documents like the WCAG don't tend to dispel this myth. Additionally, for those who don't know the 'right' language to use when discussing impairments and disability, talking to users can be awkward and intimidating.

This leads to the belief that accessibility is somewhat unknowable. However, what if the black magic is not real? Can we get 'most of the way, most of the time' ourselves? In a nutshell: yes and yes. Here's how we are attempting to do just that at BBC Digital.

ENTER THE CHAMPIONS

Setting aside this notion of magic, there are three main areas in which audits do fall down. They are too late in the process, too slow to make a difference and undertaken by those too distant to have empathy with the product team.

In our experience, making many small tweaks from within the team along the way results in a better outcome than one big push at the end from outside. To do this, we focus our time on adding more small touches, and ensuring each small touch is as good as it can be.

We recruit from within product teams, asking them to identify a number of champions across different roles. We have designers, developers, product owners, testers and editorial all acting as accessibility champions. We train the champions and provide them with tooling and resources so they can better understand accessibility. Finally, we network the champions together with events, meets and group communications. This helps build contact and peer support.

Unlike audits, champions start early and act often. From the start of the project to the end, there are champions involved. The small touches could be asking a question at the daily standup, or adding a scenario on some requirements. Champions are also timely. They are embedded in the team and focused on the project, so they can answer common questions quickly. A chat across the desks can replace a long and complicated email chain.

Finally, champions are part of the project. They have empathy. They are the implementors and so they have the best understanding of the project and its goals. The champion model is refocusing accessibility on making the 'doing' better, rather than marking what has already been 'done'. ■

* PROFILE

Jamie (@JamieKnight) is a senior accessibility specialist at BBC Future Media, and former frontend lead for iPlayer Radio. He is slightly autistic and has a plushie companion called Lion

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